

# The Boston Medical and Surgical Journal

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November 10, 1921

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## New England Surgical Society

### SURGICAL ASPECTS OF INTRA-ABDOMINAL TUBERCULOSIS IN INFANCY AND CHILDHOOD.

BY CHARLES G. MIXER, M.D., BOSTON.

UNCERTAINTY exists at the present time as to the value of surgery in the treatment of tuberculous peritonitis and tuberculous mesenteric adenitis. Is surgical interference indicated, or should surgical measures be directed solely toward the relief of complications arising in the course of the disease? The clinical types of intra-abdominal tuberculosis requiring laparotomy, the period of the disease in which to operate, the operative measures to be employed and the prognosis to be given in each type of case are all questions that are more or less unsettled.

A study has been made of 120 cases, chiefly from the surgical service of the Children's Hospital, in an effort to throw more light on these questions. Doubtful cases have been thrown out, only those being considered in which the diagnosis has seemed established by pathological examination, operative findings or adequate clinical tests. Accepted methods of the hygienic and dietetic treatment of tuberculosis are here considered of primary importance and should be applied to all types of abdominal infection, surgical measures assisting and never supplanting them.

What constitutes a cure in intra-abdominal tuberculosis is difficult to define, but cases have been classified as well where no symptoms referable to the disease have been noted on examination, or where the child is considered well by the parents, one year from the date of operation or hospitalization. With two exceptions, the known deaths have occurred within this period, the exceptions being 1 1/2 and 2 years respectively. On the other hand the effects of the disease may occasionally be manifest at remote periods, as in one case developing a plastic peritonitis four years following an operation for tuberculous mesenteric adenitis.

Occurring chiefly in the tenement house class the follow up work has been extremely difficult and 40% of the cases have been lost. Where they have been some months under observation with amelioration of the symptoms, they have been classed as improved.

Tuberculous peritonitis may be conveniently grouped in three types.

1—The military type—Scattered grayish military tubercles, with few or no clinical signs found frequently at post-mortem and an accompaniment of a diffuse military tuberculosis.

2—The ascitic type—The peritoneum being greatly thickened and studded with tubercles—Ascites is the dominant feature.

3—The adhesive or plastic type—Tubercles, which may be confluent, cover the peritoneum. Adjacent loops of intestine are matted to-

gether and to the abdominal wall. Large caseous mesenteric or omental masses may be present, or the glands may be calcareous.

The other type of intra-abdominal tuberculosis encountered in childhood, is tuberculous mesenteric adenitis. No case showing peritoneal tubercles should be placed in this group. The glands are caseous or calcareous, and may become secondarily infected and form abscesses. They occur most frequently at the ileo-cecal angle. The term tuberculous mesenteric adenitis, comparable to cervical adenitis, is used in place of *tuberculous mesenterica*, as being more descriptive of the existing condition. Peritoneal infection may arise in children at any age, though it is extremely rare under six months.

The milary type is usually seen in infancy. The ascitic and plastic types occur most frequently between the ages of two and eight, while mesenteric adenitis is more often found in older children.

A family history of tuberculosis or known exposure, was elicited in only twelve of the 120 cases. This point is suggestive evidence that tuberculous peritonitis is one of the most frequent varieties dependent on the bovine bacillus, as is also the fact that the relative number of such cases has apparently decreased during the last decade. It seems probable that the adequate supervision of milk supplies is responsible for this decrease.

Robable tubercular lesions elsewhere were demonstrated clinically in slightly less than one third of the patients. They occurred most frequently within the chest, in the cervical nodes, and in the epididymes. The mode of invasion may be through the general circulation, as in the milary form. It may arise from some focus elsewhere, notably the bronchial lymph nodes. Or it may occur from the intestinal tract in one of two ways. It may be secondary to tubercular ulcerations of the bowel, a form more frequently seen in infants than in older children, and may give rise to perforation. More commonly the tubercle bacilli pass through the intestinal wall at some point of lowered resistance, and reach the mesenteric lymph glands. The process there may go on as a mesenteric adenitis with large tuberculous masses, or it may become disseminated over the peritoneum, as a tuberculous peritonitis. Stasis would tend to facilitate the migration of the tubercle bacilli through the intestinal wall, and in the lower ileum we find a physiological slowing of the intestinal contents. Here, too, the alimentary canal is most plentifully supplied with lymphoid tissue and lymphatics.

Tubercular infections in childhood have a predilection for lymph glands, and intra-abdominal infections are no exception to this rule. The glands of the ileo-cecal angle and terminal ileum almost invariably show the greatest involvement. The course of the infection seems analogous to that entering through the adenoid ring of the pharynx and producing

the familiar cervical adenitis. Here the pathological evidence may or may not be left in the adenoids or tonsils. Similarly in the lower ileum, the tubercle bacilli aided by the slowing of the alimentary stream and probably not infrequently by congenital bands or peri-appendicular inflammatory adhesions, pass through the Peyers patches, with or without evidence of a primary focus and are carried by the lymph stream to the glands. The process may be limited at this point as a tuberculous mesenteric adenitis, or it may become disseminated by breaking through its limiting capsule and develop as a tuberculous peritonitis. Two cases have been encountered which would appear to illustrate the intestinal path as the avenue of entrance, one of which I will briefly outline.

A boy 3 years old was operated on for acute appendicitis, and the abdomen drained; 11/2 years later, he was operated on for symptoms of intestinal obstruction. A large mass of broken down tubercular glands was found causing the obstruction, and drained; 4 1/2 years later the child was again brought in with severe obstructive symptoms. At operation, an extreme grade of plastic tuberculous peritonitis was found. The small intestine was matted together, at one point causing complete obstruction. The obstruction was relieved by separating the loops of bowel and convalescence was uninterrupted. At the present time, 3 1/2 years after the last operation, the child is reported as well by the parents.

I believe that the different types of intra-abdominal tuberculosis are not separate pathological entities, but are different manifestations of the same process. In one case nature succeeds in limiting the infection to a tuberculous adenitis by its glandular defense, in another case the barrier is broken down and a peritonitis ensues. The difference between the plastic and ascitic types is only one of degree; some glandular involvement can almost invariably be demonstrated, some adhesions can almost always be found in the ascitic type and some fluid is almost always present in the plastic type. In no case in childhood have we been able to demonstrate the Fallopian tubes as the portal of entry of the peritoneal infection, and the fact of its occurrence equally among boys and girls would establish its unimportance as an avenue of entrance, at this age of life.

The symptoms are indefinite and the onset insidious. Abdominal distension, either from gas or fluid, is the first symptom noted in the majority of cases. There is malaise, slow progressive emaciation, slight variable and inconsistent temperature, often intestinal indigestion with either diarrhea or constipation, and occasionally colicky abdominal pain, usually referred to the umbilicus. Obstruction may occur suddenly and without apparent previous

illness. In infancy, perforation of a tuberculous ulcer and peritonitis frequently produces an unexpected surgical emergency.

The von Pirquet reaction is of definite value. In only four cases in this series has a negative test been obtained where tuberculosis was proved by pathological examination or by operation. Three occurred in infants of 18 months or less, who died of the general form of the disease. The fourth occurred in a boy of ten, in whom the reaction should have been positive. Faulty serum may have been responsible. In doubtful cases repeated tests should be made. In four other cases an erroneous pre-operative diagnosis of tuberculous peritonitis was made in the face of a negative von Pirquet reaction. The lesions revealed in three cases by operation and in the fourth by autopsy were: chronic ileo-cecal intussusception, extensive sarcoma of the kidney with peritoneal involvement and ascites, an enormous multicellular mesenteric cyst and an adhesive pericarditis. A positive von Pirquet is suggestive though not conclusive; a negative von Pirquet is definite evidence against tuberculous peritonitis except in the acute miliary type.

The x-ray is of no value in clearing up an obscure diagnosis in cases of abdominal tuberculosis, except in demonstrating calcareous glands, or revealing a spasm of the ileo-cecal valve. This has been noted a number of times in mesenteric adenitis and in the plastic form where the glands are markedly affected, and may be due to faulty enervation by pressure of the tuberculous mass.

The indication for operation in tuberculous mesenteric adenitis seems clearly defined. There is a localized process which is potentially capable of causing a disseminated peritoneal infection, or even an acute miliary process. As elsewhere in the body, this should be removed if possible. When practicable, the infected glands should be excised. Where they are broken down, they should be incised, evacuated without contaminating the peritoneum, and the capsule and mesentery should be closed in separate layers. Drainage may induce dissemination and should not be employed. Search should be made for causes of stasis, adhesions should be freed and the appendix removed. Fifteen cases of this type were encountered. No unoperated case has been included, as peritoneal involvement can only be excluded by exploration. Nine are apparently well, two have died, two have improved in the few months since operation and two have been lost track of. One death was from mesenteric thrombosis and gangrene of the ileum, caused by pressure of a large tuberculous mesenteric mass. The second, a drained case died three months after operation, presumably from a disseminated infection. Another drained case cited above, is well at present, seven years after operation, having weathered a severe plastic peritonitis

with obstruction, occurring four years after drainage. Unquestionably, in extensive glandular involvement, all the infected lymph nodes cannot be removed, but excision of those most involved may prevent a dissemination and permit the resistance of the patient to overcome the remaining infection. The results of this procedure have seemed satisfactory.

In ascitic peritonitis there is a different problem to deal with. The pathological condition is diffuse, its extirpation is impossible. Experience has shown however that laparotomy will frequently mark the turning point toward convalescence, in a patient that has been progressing unfavorably under general hygienic measures. The causative factor has never been proved, though it is generally considered that the hyperaemia produced by the withdrawal of the fluid and the entrance of air into the peritoneal cavity, is responsible. Working on this supposition, seven years ago I began the introduction of nitrogen into the peritoneal cavity after the evacuation of the fluid. Nitrogen was used as it was relatively slowly absorbed and constitutes nearly four-fifths of the volume of air. It would seem that if the very limited exposure to air occurring during a laparotomy, and the transient hyperaemia that followed was productive of improvement, a more prolonged contact would prove of greater benefit. The intra-abdominal pressure produced by the ascites could be temporarily sustained by a gradually absorbed gas, and the rapid post-operative reaccumulation of fluid that occasionally is seen, might be prevented. Later air was used in place of nitrogen. A small Mc Burney incision is made and the edges of the wound are iodized before opening the peritoneum, to prevent infection if possible. After evacuation of the fluid and excision of a specimen for pathological examination, the peritoneum is closed to an inlying catheter, around which is run a purse string stitch. The abdomen is inflated by means of a pneumo-thorax apparatus to the same circumference as before operation. The catheter is withdrawn while the purse string is being tied and the wound closed in layers. Any leakage can be ascertained by flooding the wound with water before closure. From 300 to 1200 cubic centimeters of air have been used depending on the age and degree of distension of the child. Air can apparently be demonstrated for several days or a week after inflation. One case x-rayed four days after operation, showed masses of air over-lying the intestine.

There were 49 cases of the ascitic type—12 of these were unoperated—17 were treated by simple laparotomy and 19 had air or nitrogen injections. Two simple laparotomies were followed by the rapid reaccumulation of fluid. Sanatorium treatment for several months produced no improvement or diminution of the fluid. A second operation with air injection

was followed by an uninterrupted convalescence unaccompanied by fluid.

The results of the various methods of treatment are shown on the accompanying charts. Laparotomy is indicated in the ascitic type of the disease where an active process elsewhere can be ruled out, and the child is not progressing favorably under medical treatment. The mortality is lowered and the convalescence is hastened. Results thus far suggest that air injection may give more beneficial results than simple laparotomy.

The plastic stage of tuberculous peritonitis is represented by 53 cases. Undoubtedly a number of instances of the miliary type are erroneously included through insufficient data or lack of a post-mortem examination. Unoperated cases comprise 22. Three are apparently well and six are dead. Exploration was performed in 19 children—four seem well and six are dead. Two cases were drained; one died and the other was lost track of within a few weeks. Ten operations have been undertaken for the relief of obstruction. Anastomosis was attempted 5 times with 4 deaths and 1 case improved. Adhesions were separated 5 times with 2 known deaths and 2 apparent cures. Obstruction is a common complication in the plastic type and is extremely hard to deal with, owing to the thickening and friability of the bowel. Separation of adherent loops at the site of the obstruction apparently offers more hope than anastomosis. Of 5 fatal cases of the miliary type, 4 were drained for perforation of the small bowel; the 5th was unoperated; there were 14 cases of tuberculous peritonitis in infants under 12 months with 11 known deaths; 4 of the 5 perforations occurred in this group.

Surgery has nothing to offer in the treatment of plastic tuberculous peritonitis, save in meeting the complications and emergencies as they arise. The prognosis is bad, though occasionally an inexplicable good result will follow an operation undertaken for the purpose of diagnosis or even following relief of an acute obstruction.

#### CONCLUSIONS.

1. The various types of tuberculosis within the abdomen appear to be different stages of the same pathological process.

2. The most common avenue of infection is through the intestinal tract.

3. Where practicable in cases of mesenteric adenitis, excision of the tuberculous focus and correction of the cause of ileal stasis is indicated.

4. Operation should be advised in any case of the ascitic type, where improvement does not take place after a fair trial of medical treatment. Air injection may hasten the convalescence and show a lower mortality rate than simple laparotomy.

5. In the plastic type, operation is of no value except in meeting the complications of the disease.

6. Hygienic treatment is of paramount importance. Surgery should only aid and never supplant it.

Dr. WILLIAM E. LAND, Boston: I think this is a very difficult subject to present a paper on and I think Dr. Mixer should be congratulated on his presentation. The difficulty in presenting a paper on this subject and in its discussion is dependent on the fact that the condition varies so much according to the stage at which the disease is; that is, the difficulty of diagnosis in the glandular stage of the disease is quite different from the difficulty in the ascitic stage. Also that is again different from the plastic stage of the disease. There is the same difficulty, also, in the prognosis and in the treatment according to the stage of the disease.

There are a few things which stand out fairly clearly, however. One is that in localized mesenteric glands the merit of surgical intervention is unquestioned. Of course, the number of such cases where one encounters glands that are not too wide-spread to be successfully excised only occurs occasionally. When this does occur, I think there is no question but that it should be done, and the results have proved very satisfactory. Where the glands have gone on and formed large abscesses, I think also that the indications for operative intervention are clear. If those are left alone, there is no question but that they will break through and disseminate the disease; and I think in those cases the abscesses should be evacuated and not drained. It has been our practice to evacuate the pps, wipe out the abscess cavity with iodine, sew up the hole in the mesentery and close the abdomen without drainage; this offers much better results than with drainage. In small infants with the plastic type of the disease where it is extensive, where the whole abdominal cavity is obliterated, and you attempt to get into the peritoneal cavity and practically can't do it, the results are almost universally bad. It comes pretty close to being a fatal disease. Of course, all stages of this disease run into each other and where Dr. Mixer might classify one case as belonging to the plastic type, I or someone else might classify it otherwise. That is, you will see cases where all three stages are present, and it is very difficult to classify them.

Now with the ascitic stage, it is still rather an open question as to the merit or advisability of operation and also as to what operation should be done. There are unquestionably a certain number of those cases which get well without any operation. There are probably more cases which get well with a simple laparotomy and an evacuation of the fluid.

With regard to inflation with oxygen, or nitrogen, here, again, you get into confusion. I think Dr. Mixer, in going over the cases, has got one more cure with inflation with oxygen, and as I went over the cases for a paper read before the New England Pediatric Society, I had one fewer case, showing not that he is not telling the truth or that I am not, but that we are classifying cases differently; and it makes it a very difficult question. Figures are not reliable; the personal equation necessarily enters into it.

With regard to the hyperemia, there has been some experimental work done showing that letting in of air will produce hyperemia. Recently I started investigating that on rabbits and could not find that very much hyperemia was produced either by opening the abdominal cavity and letting air in or by injecting air in. It taxes your imagination to see hyperemia with either procedure. We looked at the peritoneum



TABLE I.

Total number cases	120
End results obtained	{ Well 88 } 73
	{ Dead 35 }

TABLE II.

Miliary Type	5	DEAD
Laparotomy with drainage for perforation	4	4
Unopened	1	1

TABLE III.

Tb. Mesenteric Adenitis, Total No. Cases 15

Operated	{ Well 9 } 15
	{ Improved 3 }
	{ Lost 2 }
	{ Dead 1 }

Cause of death: Mesenteric thrombosis, Disseminated tuberculosis.

TABLE IV.

ASCITIC TYPE		WELL	IMPROVED	LOST	DEAD	CAUSE OF DEATH
Total No. Cases	49					
Unoperated	12	3	3	3	3	
Simple laparotomy	17	8	4	2	3	{ 1 Miliary Tb. 2 1½ yrs. Post-op. 3 Tb. Pneumonia 4 mos. post-op.
Air or nitrogen injection	19	8	6	3	2	
Laparotomy c. drainage	1				1	

TABLE V.

PLASTIC TYPE	No. Cases	WELL	IMPROVED	FAILING	LOST	DEAD	CAUSE OF DEATH
Total No. Cases	53						
Unopened	22	3	4	3	6	6	{ 1 Tb. Peritonitis, 4 cases 2 Perforating ulcers of ileum 3 Tb. Meningitis 1 Immediate Post-op., 2 cases 2 3½ wks. Post-op. 3 Intestinal Perforation 4 Fecal Fistula, 2 cases 1 Post-operative
Simple exploration	19	4	4	3	2	6	
Laparotomy c. drainage	2		1			1	
For obstruction	10					4	{ 1 Post-op., 3 cases 2 4 mos. after op. 1 Obstruction, unrelieved 2 Fecal Fistula
Anastomosis	5		1				
Separation of adhesions	5	2	1			2	

at the end of 24 hours and at the end of a week; there was possibly a little hyperemia produced by both operations and possibly a little more produced by the inflation of air than by simple laparotomy, but nothing striking with either, which leaves the situation largely an empirical procedure. If there is benefit, and I think there is benefit with both procedures, we don't know why it is produced or what causes the benefit.

### INTUSSUSCEPTION—THE CLINICAL MANIFESTATIONS.\*

BY JAMES S. STONE, M.D., BOSTON.

INTUSSUSCEPTION is the most terrible abdominal surgical emergency of infancy. My purpose is to call attention to the clinical manifestations of the condition which I am sure are not as fully and generally understood as they should be. For otherwise the patients would not, as is now so often the case, reach the hands of the surgeon too late for help. The monograph of eighty pages written by Charles P. B. Clubbe, of Sydney, N. S. W., some years ago, and just reissued by the Oxford University Press in a second edition, ought to be read and re-read by every physician and surgeon. He gives a clearer description than any other writer.

The symptoms are characteristic. Pain accompanied by shock is invariably the first symptom of intussusception. The pain is paroxysmal and gripping in character. It occurs only during the periods of peristaltic action. Between the periods of contraction of the muscular wall of the bowel, the child may often quietly drop off to sleep. The intervals of comfort vary in length very considerably, from a few minutes up to half an hour. But when the spasmodic peristaltic action comes on, the violent contraction and the pulling and squeezing of the bowel produce definite symptoms of shock. Pallor, cold sweat, and often reflex vomiting, occur during the periods of contraction. Clubbe rightly emphasizes most strongly the importance of these symptoms and points out that it is these symptoms which alarm the mother and which the physician must not ignore. The child may often have had ordinary cramps and colics. The mother is alarmed because the cramplike attacks of pain are accompanied by the definite symptoms of shock. Never, as Clubbe warns, is the story of the mother to be disregarded.

The next symptom is the appearance of mucus in the stools. This usually comes fairly promptly because of the active peristalsis and the fact that the trouble is generally located in the large bowel. But the mucus appears only after any faecal matter in the large bowel has been discharged, although, of course, it may come at the end of an otherwise normal faecal movement. The mucus is due entirely to the congestion of the intussuscepted bowel. As the bowel is in-

verted, the mesentery is dragged in also, and becomes pinched when it enters the ring of the receiving bowel. As more and more mesentery is drawn in, the pinching becomes more marked and the venous return from the bowel is cut off. The mucus becomes blood stained. As the passive congestion increases, practically pure blood is poured out into the lower bowel. The rapidity with which there is a change in the movements from mucus to blood stained mucus, and then to blood, depends entirely on the rapidity with which more and more bowel and mesentery become involved.

The symptoms so far mentioned are due solely to the intussusception. Those which follow are due to intestinal obstruction.

The first of these is again vomiting. But the vomiting is not the reflex vomiting noted at first. It is that due to obstruction and soon becomes faecal in character, till finally the child spits out of the corner of the mouth the dark faecal fluids.

The toxæmia due to absorption is the next symptom, and in infants this condition often comes on with appalling rapidity and severity.

Distension may or may not be present. Often the distension is slight owing to the amount of vomiting. At times it is considerable.

There are thus these symptoms in order:

1. Recurring attacks of pain associated with pallor, cold sweat, and reflex nausea or vomiting.
2. Mucus, blood stained mucus, and blood in the movements.
3. Obstructive vomiting.
4. The toxæmia due to obstruction.

The diagnosis can be made from these symptoms alone. The finding of the tumor on abdominal examination confirms the diagnosis. Fortunately, the tumor can usually be felt with the greatest ease, but occasionally it is concealed behind distended loops of small bowel. There is one other matter of the utmost importance regarding the tumor. The trouble usually begins at the ileo-caecal valve. The tumor, therefore, at the very onset is in the right iliac fossa. But very soon the advancing mass is under the liver at the hepatic flexure of the colon where it may be felt at times only with great difficulty because it is as yet relatively small and deeply situated. If the true condition is overlooked at this stage the chance of cure is decreased tremendously. And at this early stage it seems as if the tumor must be often overlooked because of the altogether too common delay in diagnosis. Once again remember the advice of Clubbe, to examine under an anaesthetic, if necessary, to make certain of the presence or absence of the tumor beneath the liver in those cases in which the other symptoms are characteristic.

Later in the course of the disease, the tumor moves over toward the spleen and later still lower in the left abdomen.

In no disease are the symptoms more definite

\* Read before the New England Surgical Society, September 21, 1921.

\* and in no disease is the need of instant surgical intervention more plain. Yet, in spite of this, the cases are sent to the hospitals late, and in Boston they are not sent to the hospitals in the numbers which might be expected if no cases died unrecognized.

The probable reasons for failure to recognize the disease promptly lie first in the fact that the early pain comes on only at intervals, and, second, that the early tumor is hidden by the liver. We must remember always that early in the disease the characteristic symptoms occur only during the paroxysms of peristaltic contraction. When the complete picture of intussusception with obstruction is present, the time for successful surgery has often gone.

The rapidity with which the disease may progress is sometimes appalling. I can never forget a baby, of about a year, in whom the tumor reached from the ileo-caecal valve to the rectum, and became absolutely irreducible within six hours after the onset of the first symptoms.

The large majority of cases of intussusception begin by the passage of the lower ileum through the ileo-caecal valve. This makes a tumor within the caecum which peristaltic action very promptly pushes along through the ascending, transverse and descending colon, forming a tumor commonly described as sausage shaped. The description may be correct if a curled up sausage is in mind.

In some instances, however, the trouble originates in other portions of the bowels. Next in frequency to the origin at the ileo-caecal valve is an origin in the lower ileum near the region of Peyer's patches or at the location of a Meckel's diverticulum. Not infrequently a Meckel's diverticulum the size of a small thimble may turn inside out and enter the bowel, causing the nucleus of the intussusception. In some instances a polyp in the lower ileum, apparently at the location where Meckel's diverticulum had been, becomes the origin of the intussusception. Possibly, swelling of lymphoid tissue in the lower ileum may be a causative factor.

Occasionally, without clear mechanical cause, the trouble originates higher in the small or lower in the large bowel. The possibility of an apparent prolapse of the rectum being in reality an intussusception originating in the sigmoid must always be kept in mind.

In the matter of treatment I will mention only a few points. No other than operative treatment is for a moment to be considered. While an exceptional case may be cured by enemata, just as a few cases recover spontaneously, the delay and shock and uncertainty of such procedures condemn them absolutely.

No matter how far to the left side the tumor may be felt, the incision must never be to the left of the midline and usually may well be to the right because the greatest difficulty in reduction will almost certainly be in the region

of the caecum. Reduction by taxis as far as possible is the first step. There may be difficulty at the splenic and perhaps at the hepatic flexures.

The real problem comes toward the end. The swelling and oedema of the bowel will frequently cause an interlocking of the various portions, making reduction difficult and at times impossible. If under these conditions the bowel is still viable, every reasonable effort at reduction must be made even at the expense of some tearing of the sero-muscular layers. What would under ordinary conditions be regarded as unjustifiable force may be necessary, but there must be no roughness in manipulation.

Of course, if the bowel is gangrenous or if reduction is impossible, immediate resection is the only thing. The risk of resection is great but in the literature Clubbe has collected, there are sixteen instances in which an infant has survived resection. At the Children's Hospital there have been no such recoveries, though some have seemed hopeful at first. The case reported by Dowd, of New York, of a baby five days old, is the most remarkable.

After resection, anastomosis is necessarily a time consuming procedure. Enterostomy is, of course, much quicker and in adult surgery would doubtless be a preferable procedure. But it must always be remembered that in a baby an enterostomy is a very serious matter. The very active peristalsis, and the absolute lack of control in crying and straining, practically always lead to a prolapse of the bowel. This condition combined with the consequent irritation of the adjacent skin and the interference with nutrition, leads nowhere. In babies, therefore, enterostomy is to be avoided if possible, and wherever possible an anastomosis done.

It may seem unnecessary to say anything about closing an abdominal wound. But in babies this must be done with the utmost care. Two cases of intussusception at the Children's Hospital have been lost as a result of a giving way of the wound, one on the fourth and one on the tenth day. These two experiences, together with others in different conditions, justify a word of warning.

The temptation is to close the abdomen as rapidly and simply as possible. But in babies it is never safe to do anything else than close the wound in layers. They cry and strain without any control. The abdominal wall is often so thin that peritoneum may very readily be rolled in between the layers of muscle and fascia, and thus prevent any possible union of the structures which we must depend upon for proper support.

One other matter—the appendix, the ileo-caecal valve, the various folds of serous membrane in this region are practically always involved in the intussusception. The temptation is often strong to remove the appendix, and in other ways to improve on nature. We are apt to

forget that the resisting power of the normal peritoneum is what saves use from trouble in the vast bulk of abdominal surgery. Remember that we are dealing with damaged peritoneum, and do not be tempted to do anything more than cure the one single condition which demands treatment. Other surgical refinements can perfectly well be done later on a living child.

### ACUTE INTUSSUSCEPTION. SURGICAL TREATMENT AND REPORT OF CASES.

By F. V. HUSSEY, M.D., PROVIDENCE, R. I.

As the principal purpose of this paper is to discuss the treatment of intussusception, it is not proposed to discuss in detail the causes and symptoms of that condition, as they have already been presented by Dr. Stone in a very thorough manner, but at the risk of trespassing on your patience for a few moments I would like to emphasize a few of the points already brought out to demonstrate the reason for the contention that the earliest possible operation is the method of choice in the treatment of intussusception, and that the results obtained are directly related to the length of time which intervenes between the onset of symptoms and operation.

As to the causes of intussusception, they may be classed as predisposing and actual. The predisposing causes are due to certain peculiarities which are found in the intestinal tract of the rapidly developing infant. The most important of these conditions are:

1. The greater mobility of the caecum and ileum due to a longer mesenteric attachment because of a lack of fusion between the two layers of mesentery which later in life occurs, and which fastens the colon, caecum and ileum to the posterior wall of the abdomen. This extreme mobility allows the ileum to fall into a nearly direct line with the long axis of the caecum and colon.

2. In the very young infant, the ileo-caecal valve is large, due most likely to the much more rapid development in size of the caecum over the ileum. This permits of an abnormally easy passage of the ileum through the ileo-caecal valve.

3. The pronounced thinness of the intestinal walls in infants.

Among the actual causes may be classed:

1. Those organic conditions such as intestinal polypi, Meckel's diverticulum, tumors of the walls of the intestines, *et cetera*, which in these cases form the apex of the intussusception.

2. An irregular muscular contraction of the intestinal wall which permits or causes the normal bowel below this contraction to turn up and fold over the point of contraction above. This is the beginning of the invagination which

continues as far as the length of the mesentery permits.

Now the pathology which results from invagination of one portion of the intestine into another, is due to interference with the blood supply of that section of the bowel through traction and pressure on the involved portion of the mesentery.

We have:

1. Swelling of the walls due to congestion and oedema, which causes the degree of obstruction present and bleeding into the lumen of the bowel.

2. If interference with the blood supply is sufficient, gangrene and sloughing occurs.

3. Adhesions due to local inflammatory processes occur between the walls of the intussusciens and intussusceptum which with the congestion and oedema produce irreducibility.

4. And finally the general condition of peritonitis supervenes. Thus we can see that early relief to the circulation of the segment of intestine involved will head off the later infinitely more serious complication which makes operative results so unsatisfactory.

I cannot refrain from speaking of one very important symptom which follows the sudden acute pain. Before bloody movements are passed, the patient nearly always has one or more stools of fairly normal appearance. In fact, in some of the cases to be presented later, bloody stools never occurred.

#### Treatment.

The opinions of men who have had the most experience is conclusive that there is no medical treatment for intussusception. Inflation with air and distention with water of the large bowel has been tried without uniform results; and these methods are looked upon with disfavor by most surgeons at the present time. These procedures are unscientific, in that accurate results cannot be obtained in the sense that a positive reduction of the intussusception is accomplished. In these cases which are reducible, the main difficulty occurs in reduction of the swollen and oedematous apex of the intussusception. In many instances where complete reduction has been thought to have been obtained, a recurrence of the invagination has taken place.

Mr. Eve of London, gives the following arguments against inflation and injection:

- I. These methods are rarely efficacious. In twenty-four cases which he cites in which this treatment was carried out, none was cured. Eighteen of them were subsequently operated upon.

- II. Injection or inflation were not infrequently followed by an illusory or partial reduction.

- III. Injection or inflation are haphazard and not without considerable danger. The chief danger of which, of course is the danger of rupture of the intestine.

Such procedures in the present day of accurate aseptic surgery, cannot in the least be advised. This brings the treatment of intussusception within the realm of radical surgery, but the amount of surgery to be employed must be governed by the condition present. We must bear in mind the fact that 70% of all cases of intussusception occur during the first year of life, at a time when our patients must be handled with a great deal of consideration as to how much surgery they will stand, and also with the knowledge that in many instances a large amount of valuable time between the onset of sickness and the time of operation has elapsed.

There is no question but what our results depend directly upon the time of diagnosis, the time of operation and the skill in operating exhibited. Statistics positively bear out the statement. In a series of 198 cases reported by Holt, the mortality increased 37 per cent. in those operated on the first day to 75 per cent. in those operated on the sixth day. Willard reports a mortality of 20 per cent. in operations on the first day and 80 per cent. in operations on the sixth day.

At St. Thomas' Hospital, London, where a very large number of cases of intussusception have been operated upon, the following figures have been presented for the last twenty years. Three hundred and seventy-four cases were operated upon for 1898 to 1917, inclusive. The mortality for five-year periods for the twenty years were 48.1, 38.8, 32.4, 19.2. The reason for the decreasing mortality for each five-year period being earlier diagnosis and improved surgical technic.

Clubbe of Sidney, Australia, in his first fifty cases had a mortality of 50 per cent.; in his second fifty, 25 per cent.; his third fifty, 8 per cent., and in his fourth fifty, 6 per cent.

These results as finally obtained, are truly marvelous, but they depend upon the same factors of early diagnosis, early operation plus a highly developed surgical experience and technic in these cases. Nevertheless, it shows what results can be obtained under the most favorable circumstances.

As soon as the diagnosis is made and even before, if possible, I might say, laparotomy should be performed. We should firmly bear in mind that if anything more than simple reduction of the intussusception is demanded, the mortality increases amazingly. In the series of 374 cases reported from St. Thomas' Hospital, 82.2 per cent. of the invaginations were reducible.

Fortunately this leaves a small percentage of cases in which resections are necessary if early operation is performed. In the reducible tumors a large part of the reduction can be accomplished within the abdomen. By gentle pressure at the apex and by gentle stroking of the outer walls of the intussusception towards

the apex the invagination is usually easily reduced except at the last portion. It is here that the most difficulty occurs, hence the reduction of this portion should be done without the abdomen, where the mass is directly under the eye. After complete reduction of the intussusception, search should be made for any abnormality, such as a polyp or polypi, Meckel's diverticulum, tumor of the wall of the intestine, *et cetera*, which may have been the cause of the trouble. If such conditions are found, appropriate measures should be carried out to correct them. Stress should also be laid on the fact that more than one invagination may be present and this should be borne in mind in our search for other conditions.

As very few recurrences have been reported after open reduction by taxis, the majority of surgeons have contented themselves with that alone. A few recommend that further steps be taken to render recurrence impossible or less likely; such as fixation of the caecum to the wall of the abdomen, anchorage of the caecum and terminal portion of the ileum with peritoneal bands or plication of the abnormally long mesentery. Personally, in a few cases, I have fastened the upper border of the terminal portion of the ileum to the inner margin of the ascending colon by a single suture of plain catgut or linen, bringing the two segments into a parallel direction. This procedure requires only a few seconds to perform and is as fully efficacious as the methods cited above. This step has been taken following a suggestion which I saw in one of the medical journals several years ago, but the name of the surgeon who made the suggestion and the periodical in which it was published, unfortunately, I have been unable to recall.

The routine removal of the appendix cannot be advised for two reasons:

1. It is seldom, if ever, the real cause of the invagination.

2. Any additional operative procedure which is not essential for the recovery of the patient is not justified. It has been shown to increase the risk of the operation which is very considerable at the least, in these small patients and by just so much militate against a successful recovery. Some patients will safely tolerate this increased amount of manipulation, but others in whom the margin of safety is small or nil, will not.

In the irreducible variety of intussusception a very different problem is encountered. It is one either of primary resection, or of bringing the mass to the surface, anchoring it to the wall and draining the bowel proximally and at a subsequent time completing the operation when the patient is in better condition. Very few successful resections in children under one year have been reported. In fact the mortality is very nearly 100%. In older children from



five years up, resection is not serious, the mortality dropping to about 33%.

If resection is necessary, resection *en masse* is preferable to the Maunsell-Barker operation, as there is: (1) Less exposure of the peritoneum to infection than as if the gangrenous intussusception were removed through the incised wall of the intussusciptens; (2) It is an easier operation to perform, and (3) Healthier tissue is dealt with.

Of course the way to avoid resections in cases of intussusception practically depends on an early diagnosis and early operation when the intussusception is in the reducible stage. Hence an effort should be made to make the general practitioner appreciate this fact and in this way bring about a closer coöperation between him and the surgeon.

I have appended a report of sixteen cases of intussusception operated upon which have been taken from the Surgical Service at Memorial Hospital. I am not going to report each case in detail but am presenting a brief summary of them. Of the sixteen cases, fourteen were of the ileo-caecal type and two of the enteric type. In the series there was one case of recurrent intussusception, the intussusception each time being caused by an adenomatous polyp in the ileum. There were eleven cases one year of age or under in which there were three deaths. Of the three that died, one patient was sick five days before operation, and the other two three days before operation. One of the cases sick three days required a resection of the intussusception. In the five cases above one year of age there were two deaths, one patient who died was ten years old, had been sick ten days before operation and required a resection. The other case which died was two and a half years old and had been sick two days before operation. Of the sixteen cases there were only two in which the intussusception could not be reduced and which required resection. Five of the total number of sixteen cases died, giving an operative mortality of 31.2 per cent. This mortality I do not consider at all excessive, when it is realized that only four cases were operated upon within twenty-four hours from the onset of their symptoms.

CASE 1. J. O. Dr. Jones' service. Male, aged nine months. Admitted to hospital September 18, 1911. Was taken sick three days previously with severe pain in abdomen. Had a normal bowel movement, followed by nausea and vomiting, which was repeated frequently and later became stercoraceous. Pain seemed mostly localized to right side of abdomen. Vomiting stopped night before admission to hospital. On the morning of admission he had a normal stool. No mass could be felt in abdomen. At operation an intussusception was found (type not stated). This was reduced and a loop of the ascending colon was fixed up in the wound with the idea of drainage later,

but the patient's condition became much worse and he died soon after leaving operating table.

CASE 2. S. G. Dr. Wilson's service. Male, aged one year. Admitted to hospital May 25th, 1912, with a history of having been suddenly taken with severe abdominal pain ten days previously. Attack subsided after 24 hours. He was better until three days ago, when he suddenly had a recurrence of sharp abdominal pain, accompanied by almost constant nausea and vomiting. Bowels did not move for three days. A mass could be made out in the abdomen to the right of the umbilicus. Operation disclosed an intussusception of ileo-caecal variety in the ascending colon which was easily reduced by traction. Patient made a good recovery.

CASE 3. Dr. Hussey's service. Patient was a boy eight months old and had been in good health up to the present illness. On the ninth of March, 1912, after nursing at the breast, he suddenly began to cry with pain, and to vomit. Twelve hours after the onset of pain he had a profuse hemorrhage from the rectum. Enemas were given which were returned streaked with blood and mucus, but contained no fecal matter. Patient was unable to pass gas. Has been unable to retain any nourishment by stomach. He was admitted to the hospital March 12th, three days after the onset of symptoms.

On examination the abdomen was distended and tender, and the abdominal muscles were rigid. No mass could be felt. The patient seemed to be in very poor condition. A diagnosis was made of intestinal obstruction, and on account of the blood which had been passed from the rectum, intussusception was suspected as being the cause. Operation was immediately performed and an intussusception of the ileo-caecal type was found lying in the ascending colon. This was very easily and quickly reduced, although it was of three days' standing. However, several gangrenous spots were found on the caecum and ileum, for which a resection of four inches of the ileum and caecum was done and a lateral anastomosis made between the ileum and ascending colon. The patient failed to benefit by the operation and died later.

CASE 4. E. J. Dr. Hussey's service. Male, aged 2½ years. Admitted to hospital May 23, 1913. Was taken sick the night before with abdominal pain and was very restless during the night. The next morning bowels moved with considerable pain, and at two in the afternoon another movement occurred stained with considerable blood. Second bloody stool passed about four with considerable tenesmus. An elongated mass could be felt in left hypochondrium.

Operation was performed in the evening and an intussusception of the ileo-caecal variety was found lying in the transverse colon. The intussusception was reduced and the patient discharged on the eleventh day.

CASE 5. L. C. Dr. Hussey's service. Male, aged five months. Admitted to hospital July 11, 1913. Was taken suddenly sick about noon of the same day with severe abdominal pain, nausea and vomiting. This was followed by passage of several small, bloody stools. Four hours later a mass could be felt in left iliac region. At operation, done five hours following onset of pain, an intussusception of ileo-caecal type was found which was descending into the sigmoid flexure. The intussusception was reduced and the patient made a good recovery.

CASE 6. C. P. R. Dr. Jones' service. Male, aged four months. Admitted to hospital December 12, 1913. Had a history of having been taken ten days previously with sudden pain in abdomen, nausea and vomiting. Attack cleared up and patient seemed well until two days previous to admission to hospital. Was then taken again with severe abdominal pain, and operation was advised and performed. An intussusception was found (type not mentioned), which was reduced, and the patient made an uneventful recovery.

CASE 7. J. M. Dr. Hussey's service. Male, aged two years, eight months. Admitted to hospital February 18, 1914, with a history of having been taken sick two days previously with severe abdominal pain, paroxysmal in character. Vomited several times. Was given enema with clear return. An elongated mass could be felt in descending colon. Operation. Intussusception of ileo-caecal type was found and reduced. Following operation patient grew progressively worse and died on second day.

CASE 8. V. R. Dr. Jones' service. Male, aged 10 years. Admitted to hospital November 14, 1914, with history of having been taken with severe pain in right lower quadrant six days previously. Was nauseated and vomited several times. Bowels did not move until day before admission, when a bloody stool was passed. A tender mass could be felt in the lower right quadrant.

Patient seemed very sick. Operation showed an intussusception of the ileum into the caecum which was irreducible. A resection of the section of gut involved was made and a lateral anastomosis done. Patient did not rally, and died a few hours later.

CASE 9. D. L. Dr. Hussey's service. Female, aged seven months. Admitted to hospital January 27, 1915. Was taken sick on previous day with sharp, intermittent pain, nausea and vomiting. Had several small, bloody stools with the passage of free, bright red blood from rectum. A mass could be felt in region of descending colon. Operation revealed intussusception of ileo-caecal type, which was reduced. Appendix removed. Patient made an excellent recovery and was discharged cured.

CASE 10. D. C. D. Dr. Hussey's service. Fe-

male, aged eight months. Admitted to hospital March 15, 1915, with a history of having been taken suddenly, the night before, with severe abdominal pain, accompanied by nausea and vomiting of greenish material. The following morning began to have frequent, bloody stools. A mass was felt in the upper left quadrant and a diagnosis of intussusception was made. Operation disclosed intussusception of ileo-caecal type, which was reduced, and appendix was removed. Terminal end of ileum was approximated to inner border of ascending colon by one linen suture. On day following operation patient developed broncho-pneumonia, but finally recovered and was discharged cured.

CASE 11. J. McR. Dr. Hussey's service. Female, aged 12 years. Admitted to hospital September 26, 1915, with a diagnosis of intestinal obstruction probably due to intussusception. For two weeks previously patient had been having intermittent attacks of colicky pain in abdomen, accompanied by nausea and vomiting. Attacks would last for a few hours and then ease up. The day before admission to the hospital, patient had return of pain which was severe and cramp-like in nature. Was nauseated and vomited. Bowels did not move. Patient was seen in consultation, and an elongated, doughy mass could be made out in region of umbilicus, which seemed to lie in a transverse position. At operation an intussusception involving the small intestine was found, about three feet of the intestine being invaginated. This was easily reduced when a small, rather soft mass was felt within the lumen of the bowel. An incision was made through the wall of the intestine, disclosing an adenomatous polyp the size of a walnut. The polyp was removed and the incision in the intestine closed. The patient had a rather stormy convalescence but was discharged cured.

CASE 12. J. McR. Dr. Hussey's service. Female, aged 12 years. Readmitted to hospital January 28, 1916. Was operated on September 26, 1915, for intussusception of enteric type (see Case 11). Gave history of colicky abdominal pain off and on for last two weeks. Some nausea, bowels constipated. An elongated mass could be felt in the umbilical region. Operation disclosed a recurrent intussusception of enteric type. Invagination was reduced and at the apex a polyp could be felt within the lumen.

Careful search revealed two others the size of a small marble; the three being found in a segment of intestine measuring about three feet. These polypi were removed through separate incisions. The patient made a splendid recovery and went home relieved.

CASE 13. A. D. Dr. Jones' service. Male, aged four months. Admitted to hospital September 27, 1916. Was taken sick in the morning with sharp, severe pain in abdomen.

Had a slightly blood streaked stool. Condition remained about the same during the day. In the early evening, had another bloody stool, profuse in amount. Sent to hospital for operation and intussusception of ileo-caecal type was found. This was reduced and patient made an uneventful recovery.

CASE 14. E. R. Dr. Hussey's service. Male, aged five months. Admitted to Memorial Hospital February 27, 1917. Taken sick four days previously with sharp, severe pain in abdomen. Vomited considerable amount of greenish material. The following day began to have bloody mucus stools. Vomiting and bloody stools continued to time of admission to hospital. Rectal examination disclosed apex of intussusception just within anus. Operation revealed intussusception of ileo-caecal type. It was easily reduced and one linen suture was taken fastening terminal portion of ileum to inner margin of ascending colon. Patient made an excellent recovery.

CASE 15. D. W. Dr. Jones' service. Male, aged six months. Admitted to Memorial Hospital August 13, 1918. Taken suddenly sick five days previously with severe abdominal pain of colicky nature. Did not have a bowel movement since onset of attack. Has had considerable vomiting of greenish material. Operation disclosed intussusception of ileo-caecal type which had traversed ascending-transverse and into descending colon. Invagination was reduced, but during the process a small tear was made in the ileum which was sutured with fine chromic gut. Patient was in extremely poor condition and died a few hours following operation.

CASE 16. M. H. P. Dr. Hussey's service. Female, aged six months. Taken sick about 10 A.M., September 18, 1918, with sharp colicky pain. Patient nauseated and vomited. Frequent mucus stools stained with blood. Elongated mass felt in region of ascending colon. Operation four hours later. Intussusception of ileo-caecal type was found and easily reduced. Upper border of terminal portion of ileum fastened to inner border of ascending colon by one interrupted silk suture. Patient made an uneventful recovery.

#### DISCUSSION OF PAPERS OF DRs. STONE AND HUSSEY ON INTUSSUSCEPTION.

DR. HOMER GAGE, Worcester: I hesitate to take part in this discussion because I don't know a great deal about the subject; but there are a number of features in connection with intussusception which have impressed themselves on me in my limited experience. The first problem is the diagnosis, and I was struck with the remark of Dr. Hussey that the operation should be done before the diagnosis is made; and that is the point which I would like to impress upon the pediatricist. The acute surgical belly should be operated upon at once, even if the exact diagnosis is not perfectly clear, and in more than one of the cases I have had the recognition of the situation was not explained to me until after the abdomen was opened. In other words, it comes down to the fact that an acute surgical condition should be recognized at once.

When that is done, the second problem, *viz.*, what should be the procedure, is not a difficult one; the reduction is usually easy and recurrence is rare. In the early operation it is not often necessary to do anything, in my experience, except to reduce. I have seen cases in which, after reduction, there has been a tendency to recur, and in these cases what I have done was to attempt to immobilize the caecum and to immobilize the lower end of the ileum. The suggestion of Dr. Hussey of stitching it up against the lower end of the colon, I have never tried, but it strikes me as being commendable. Of course, in the late cases we must recognize the fact that there isn't very much we can do.

I agree with Dr. Stone that I should prefer to do an immediate resection rather than an enterostomy in an infant under one year. But the main thing is the matter of early diagnosis and the fact that we have to deal with a surgical abdomen which should be explored without delay.

#### Original Articles.

#### DIPHTHERIA OF LARYNX, TRACHEA AND BRONCHI ASSOCIATED WITH PAPILLOMA OF LARYNX.

By EDWIN A. MESSIAH, M.D., Boston.

[From the Clinic of the Throat Department, Boston Children's Hospital.]

INFECTION of the respiratory tract by the Klebs-Loeffler bacillus is not rare, although fortunately it is now becoming more uncommon. The usual type is characterized by a membranous formation which sometimes gives rise to tubular casts of the trachea and bronchi.

I wish to report a recent case seen at the Throat Clinic of the Children's Hospital, which is very unusual for two reasons:

(1) The nature of the exudate or membrane.

(2) The combination of a K-L infection with laryngeal papilloma.

J. R., No. A31087, 6 years old, entered the Medical O. P. D. September 28, 1920, complaining only of slight hoarseness for one week. His physical examination was negative except for slight general glandular enlargement. No examination of larynx was made. His tonsils were enlarged. He did not act or appear sick. A culture for K-L was taken from the nose and throat, Tr. Benz. Comp. inhalations were ordered, and a diagnosis of "Acute Laryngitis" was made.

Four days later, he returned and was well in every way except for the same hoarseness. His culture was reported negative for K-L and he was referred to the Throat Clinic because of his "enormous tonsils."

He entered the Throat O. P. D. clinic four days later (October 6), complaining of hoarseness for "about a month" and mouth-breathing. His tonsils were markedly enlarged; the crypts were blocked with detritus but not acutely inflamed. There was hoarseness but absence of dyspnea. We were unable to see

his larynx but made a provisional diagnosis of "Hypertrophied Tonsils and Adenoids, and of Papilloma of Larynx."

In view of the negative culture for K-L from the Med. O. P. D. and his apparently good general condition, we gave him an early appointment for operation two days later under ether to remove his tonsils and adenoids and to make a direct inspection of his larynx through the Jackson laryngoscope.

On October 8th, under ether, the larynx was examined and several large pedunculated papillomatous masses were found attached to the vocal cords, but no swelling or oedema of the larynx and vocal cords. At this time there was no dyspnea present. Because of the size of the growths, the operation on his tonsils and adenoids was not done. As his parents were not there, and we had no permission to operate on his larynx, nothing more was attempted then.

The next day the condition was explained to his parents, and the question of a probable tracheotomy carefully gone over with them. They were advised to return in ten days or earlier for the removal of the papilloma. They did not keep their appointment and were sent for, but apparently were frightened by our suggesting the probability of a tracheotomy.

However, on November 3rd, he showed up again in our Throat Clinic in a very serious condition with the interesting story, given by his parents, as follows: "As the child seemed perfectly well except for his moderate hoarseness, they would not admit the seriousness of the condition as explained by us, objecting especially to having an opening made in his neck. So two days previous, on November 1st, they took him to the Boston City Hospital for examination. There he was sent to their contagious department, where a direct laryngoscopy was done and a piece of the papilloma was excised for diagnosis. They were told to return in four days, but because of the marked rapid, steady increase of difficulty in breathing (not noticed before the excision of the specimen), they returned to the City Hospital on November 3rd. Here they were told that the child was in such a serious condition that they had better take him back to the Children's Hospital (where he had been in the first place) for 'immediate treatment.'"

Therefore, on the afternoon of November 3rd, he came back to us and was admitted to the house almost in extremis. He was cyanotic, had marked inspiratory and expiratory dyspnea, with extreme retraction of the ribs and sternum, and was using all the accessory muscles of respiration to the fullest.

Under Novocain (1% solution) the trachea was opened between the second and third rings and a No. 2 tracheotomy tube was inserted, with complete and immediate respiratory re-

lief. The mucous membrane was normal in appearance. No membrane or exudate was present, and the trachea was apparently normal. Laryngoscopy done at the same time revealed a complete closure of the upper part of the larynx due to intense oedema, which prevented a view of the region of the glottis.

Following removal to the ward, the tube was obstructed a number of times but cleared by removing the inner tube. The patient had labored breathing the next day and a No. 3 tube was inserted in the trachea. The following day breathing became more labored and all the accessory muscles of respiration were being used. The patient was also cyanotic. The bronchoscope was passed through the tracheal opening and encountered a mass of hard, gummy, dry, brownish-red material which blocked the lumen of the bronchoscope. On withdrawing the bronchoscope a cylindrical cast of the trachea came out adherent to the lower end of the tube. The lower end of the cast tapered to a point and was moist. Its length was such that it reached the level of the bifurcation. The bronchoscope was re-introduced and a clear view of the trachea and main bronchi was obtained. This showed congestion of the mucous membrane but no other lesion. Relief was instant. On the 6th (*i. e.* the next day) labored breathing and obstruction recurred and the bronchoscope had to be passed at two different times for the relief of obstruction. Each time the bronchoscope had to be inserted a greater distance in order to remove the exudate and the relief was less marked at each succeeding insertion. The bronchoscope was passed a number of times on the last day with practically no relief of obstruction and with removal of very little material. The medication the patient had consisted of compound tincture of benzoin inhalations and ammonium chloride to help liquify secretions, and codeine for pain in the thorax. The patient had to be stimulated repeatedly. On the last day examination of the lungs showed the clinical signs of atelectasis, emphysema, and a very small amount of air entering the alveoli. In spite of all treatment as outlined above the patient died on November 7th. While in the hospital his temperature ran from 99-101°, his pulse 100-128, and his respiration 25-40. On November 5th a culture was made and reported negative for K-L.

The patient was seen in consultation by Dr. D. Crosby Greene and others, and in view of the negative reports and the character of the granular exudate from the trachea, diphtheria did not seem probable. However, at the autopsy, the pathologist recovered the K-L bacillus, both by smear and in cultures; so it was undoubtedly there.

The character of the material formed in the trachea and bronchi was not that usually seen in diphtheria of the respiratory tract, which gives a soft, dirty, greyish membrane. In this case, the material was granular, hard, dry, and gummy, somewhat similar to the cereal, grape-nuts. The color varied from dark red to a dirty brown. The casts were cylindrical and solid. The length varied from small fragments up to 2.5 cm. for the bronchial casts, and 4.75 cm. for the tracheal casts. The diameter of the bronchial casts was about 0.5 cm., average and for the tracheal casts 0.75 cm. tapering down toward the bifurcation to 0.2 cm.

Only a limited autopsy, through the tracheotomy wound, was allowed; so the lower portions of the primary bronchi and the lungs could not be examined. Dr. S. B. Wolbach, the pathologist, reports as follows: *Organs of neck.* Oesophagus is normal. On the ventricular and vocal folds of the larynx are small, grayish, papillomatous growths, the largest about 0.6 in. length, being attached to the vocal folds. Attached to the mucosa, just above the slit in the trachea, is a fibrinous membrane about 2 by 0.5 cm. and about 2 m.m. thick. Below the opening, and in the primary bronchi, along with an injected mucosa, are similar bits of membrane, markedly adherent, which when torn away leave a bright red surface. Smears from these show Klebs-Loeffler bacilli. Culture also shows "B. Diphtheriae."

The specimen is now on exhibition in the Warren Museum at the Harvard Medical School.

#### SQUAMOUS CELL CARCINOMA OF THE ANTRUM. REPORT OF A CASE, TREATED WITH RADIUM ALONE, THAT IS FREE FROM RECURRENCE TWENTY-TWO MONTHS AFTER THE LAST APPLICATION.

By J. HARPER BLAISDELL, M.D., BOSTON.

THE average patient with a carcinoma in his antrum has had little to choose in the past but the manner of his dying. Without the interference of the surgeon, his destruction was sure within the following twelve months. Plain surgery offered only a mutilating operation complete occupational disability for life, and the pushing back of death but a few months more, in the overwhelming majority of cases. With the coming of radium, the possibilities of a cure in the early cases have become something more than a useless hope.

Asepsis and operative methods taking less time and eliminating hemorrhage have reduced

the mortality following the initial procedure, from 15% to 30% as it used to occur in the European clinics to practically nihil as reported in the latest series of cases.

Davis<sup>1</sup> of the Charing Cross Hospital of London, has reported the results in thirty-nine cases of malignant disease of the antrum. Of these thirty-nine cases I am concerned only with the nineteen cases of squamous cell carcinoma: a ratio of occurrence to other types that is a true one.

The operative procedure was the removal of the jaw and the adjacent tissues by the Ferguson method. This consisted of running a M-shaped incision, starting at the base of the zygoma and proceeding along the inferior rim of the orbit to the base of the nose, thence downward to the naso-labial fold, around to the middle of the lip and down to the mouth. The soft parts of the cheek were turned back, exposing the bony structures to be removed. With saw and chisel, the junctions of the maxilla were freed from their attachments to the nose, the orbit and the mouth, and when successfully done the entire structure may be removed *en masse*. Considering the extensive removal, the wounds healed rapidly in a few weeks and in his series there were no deaths from the operation.

Five of the nineteen cases of squamous cell carcinoma were considered inoperable from the start because of the extent of the cancerous process. In these cases the tissues of the cheek were infiltrated, the orbit was invaded, and the upper deep cervical glands were greatly enlarged. These five patients died in an average of three months after their first visit, and six months from the apparent onset of their symptoms.

Of the remaining cases subjected to operation that could be traced, the cancer returned in six within the following year. Only three out of the initial nineteen were free from recurrence for periods of twelve months to two and a half years.

According to New,<sup>2</sup> the Mayo Clinic has abandoned the removal of the upper jaw in favor of a method combining the actual cautery and radium. He reports a series of thirty-three cases, covering a period of three years.

Out of the thirty-three cases coming for help, nothing was done in nearly 50% because of the extent of the process. Nineteen out of the thirty-three were squamous cell carcinoma and eleven of the inoperable cases were numbered among this group. Of the total number, twenty-one were males and twelve females.

A deep anesthesia was induced with ether; the mouth clamped open with a gag; and the soft tissues of the tongue and cheek protected from the heat of the cautery by a water-cooled retractor.



The cautery found most practical is a soldering iron heated to a dull red. The idea is to carry the iron gradually into the affected antrum and to cook the diseased tissue thoroughly for a half to three-quarters of an hour. No attempt is made to hasten the operation. As the patient comes out of the anesthetic the iron is withdrawn and a deeper narcosis is induced. By this method no bleeding occurs, which greatly facilitates the inspection of the field of operation for the limitations of the growth, a thing that is impossible to do well under the operative method.

The point of entrance into the growth is either through the palate, if the tumor points there, or if there is little bulging, it is made through the alveolar process above the tooth line. If the growth is very extensive, a large part of the palate and the jaw is removed with the cautery.

Radium is applied either at the time of the operation or within the next two weeks. One hundred to 200 milligrams of radium element are used and left in place from twelve to twenty-four hours. Applicators in the form of needles are inserted in the inside wall of the antrum. The same dose of radium may be repeated three weeks after the first application.

The inside of the antrum comes away as a sequestrum in about two months' time after the cautery is used. In this series of cases there was no operative mortality and no post-operative chest complications. In two cases in which the floor of the antrum was more or less involved, the eye on the affected side was lost from the reaction to the cautery and the radium.

The final result in the eight cases of squamous cell carcinoma subjected to the combined cautery-radium method was as follows:

SEX	AGE	TIME ELAPSED SINCE LAST OPERATION	RESULT
F.	38	15 mos.	no recurrence
M.	56	27 mos.	hopeless recurrence
M.	62	27 mos.	no data
F.	39	12 mos.	dead
M.	47	20 mos.	recurrence
M.	47	12 mos.	dead
M.	39	13 mos.	no recurrence
M.	57	17 mos.	no recurrence

The details of my own case, treated with radium alone, and free from recurrence twenty-two months after the last application, are as follows:

M. C., an optimistic dog fancier of 63, was referred to me by Dr. Richard H. Norton of Boston, an oral surgeon, for treatment of a squamous cell carcinoma of the left antrum. Two years previously, Mr. C. had had trouble with an upper left canine tooth, which was extracted. It was found then that a greater part of the root processes had been absorbed and that a previous dentist had left a pledget of cotton at the end of the root canal. Mr. C.'s

mouth was in very poor condition, with many decaying snags and considerable pyorrhea. The canine socket healed slowly and packing it with iodoform gauze was a part of the dressing procedure. Mr. C. discontinued his visits to the dentist before the healing was complete.

No further trouble was experienced with this area until about eighteen months later. A moderately painful alveolar abscess formed and Mr. C. was compelled again to seek the aid of a dentist. It was discovered shortly that a gauze dressing had been left in place in the socket from the time the patient had suddenly stopped his visits to the previous dentist some eighteen months before. The infected process in the meantime had worked its way through into the antrum. With the removal of the foreign body a temporary period of improvement ensued which was followed by steadily increasing swelling of the antrum, and a moderate amount of obstruction of the nose on the left side and constant discharge from it. The antrum was filled with a soft, pulpy material which, on removal of a portion of it for microscopic examination by Dr. W. H. Watters of the Homeopathic Hospital, proved to be squamous cell carcinoma.

In connection with this coincidence of chronic tooth disease and a following cancer, it is interesting to note that nearly twenty-five years ago Wendell C. Phillips<sup>1</sup> recorded in detail sixteen cases, occurring in connection with a tooth or tooth socket which were evidently squamous cell carcinoma which filled the antrum and then burst through the alveolar processes after the extraction of teeth for the relief of pain.

The patient was first seen by me two years after the original tooth trouble and six months after the symptoms referable to the antrum had appeared. At this time the patient showed a badly swollen cheek. The skin was slightly reddened but otherwise unchanged. The mass was large enough to push the nose well over to one side. The shape of the palate was not altered. As has been previously noted, there was obstruction and discharge from the affected nostril. Mr. C. complained principally of the extreme soreness of his teeth on that side of the upper jaw. This was so pronounced that he was unable to hold a pipe between his teeth, a matter of great personal hardship. No glands were palpable.

November 20, 1919.—Under ether anesthesia an incision was made into the antrum through the canine fossa and the radium introduced. This consisted of 50 milligrams of radium element, screened with 0.5 millimetres of silver and 1.0 millimetres of brass. This was localized as nearly as possible in the center of the antrum, which was full of a soft, pulpy tissue that bled freely. It was left in place for twenty-four hours, giving a dosage of 1200 milligram hours.

The immediate effect was excellent. At the end of three weeks a greater portion of the swelling had subsided. The pain and tooth tenderness had gone to such an extent that he was able to smoke a pipe again. The only reaction to the radium up to this time was a redness and a slight tenderness of the hard palate on the treated side and a small radium burn on the tongue. The hair on the cheek and the left half of his moustache was beginning to fall out.

December 23, 1919.—On this date 50 milligrams of radium were introduced again by the same method and with the same screening and dosage. This gave a total of 2400 milligram hours within a closed cavity in less than five weeks' time. At this time exploration of the cavity of the antrum with a dull curette revealed little of the soft tissue that had been present so plentifully before.

Three weeks after the second treatment a period of three months of extreme suffering began. At this time the opening into the antrum enlarged from necrosis and drainage from the antrum was maintained. The cavity was flushed daily with a warm boric acid solution. The few remaining teeth on that side loosened and came out. The hard palate up to the median line and the alveolar processes gradually sloughed away, leaving borders of necrotic tissue flapping in the mouth. Although the necrotic process was continuous there was little odor and nothing of the characteristic fetor of carcinoma. Surgical consultation resulted in the advice to let things alone but in another similar case I should insist on operative removal of the necrotic tissue which could be done with comparative ease.

The constitutional effect upon the man himself was most striking. It is best described as a mental dulling and a complete physical failing. Eating was, of course, most difficult, anyway, and his appetite disappeared completely. He had to be urged to take even eggs and milk. His memory failed and his mind became childish. The pain was so extreme as to demand morphine over a period of several weeks. This pain appeared over different areas on the head, a favorite location being the top of the head. He described the sensations as those of severe burning and swelling as if the top of his head was going to blow off. He would try to allay this with the constant application of ice. He was confined to his bed for the last month of this three months' period. The eye on the involved side was not affected at any time. His weight fell from 180 to 130 pounds. A fatal termination seemed the only possible outcome to family and physician alike. On one Sunday forty-five relatives and friends came in to bid him farewell and he remarked cheerfully, months afterward, "it seemed more like a wake than a visit of comfort to a sick man."

On the following Tuesday morning a very large mass of sequestrum came away and Mr. C. tells that from the moment it was out he began to improve. He got out of bed for the first time for a month, that same day, and his appetite came back immediately. The final result was complete removal of the antrum and its surrounding structures from the mouth to the orbit. The normal tissue healed readily and no further treatment or procedure has been necessary. Within a comparatively few weeks he was back at his work and he felt as vigorous as he had been all his life. His weight returned to 185. His speech is thick and difficult to understand and he has some trouble in eating, but for the present he declines any prosthetic device to help this condition. No recurrence has appeared in the twenty-two months that have elapsed since the second treatment on December 23, 1919.

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### MONITOR VENTILATION.\*

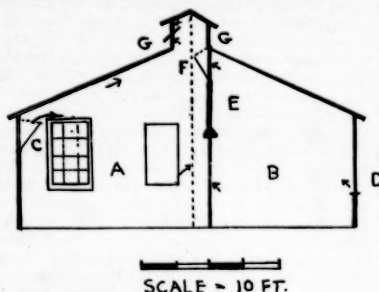
BY WALTER A. GIFFIN, M.D., SHARON, MASS.

IN monitor ventilation there is nothing new or untried. The principle is at least as old as this continent, for the Indian, in his wigwam, which, as you remember, was built in the shape of a cone with an opening at the apex for the escape of smoke, had a very good example of it. We are also familiar with it in our every day life although we may not have given it particular attention. For example, nearly all railway coaches have windows near the roof, and if they were not so provided traveling would be unendurable at times. Again, those of us who are at all familiar with the country know that old barns were usually built with a cupola as an aid in carrying off the various foul smells arising from the animals. As a means of ventilation, however, for buildings, such as halls, theaters schools and hospitals, there seems to be but little general knowledge of this system, very possibly because there are so few examples of it. In fact, of the numbers of people who have visited the Sharon Sanatorium I have not found anybody, either layman or physician, to whom our monitor system in the children's ward did not seem to be a new thing. It is well worth while, therefore, to consider at this time this new-old method of ventilation.

The object to be sought in any system should be to rival as far as possible the purity of the outside air. Practical hygienists have seemed to give most of their attention to a considera-

\* Read before the American Climatological and Clinical Association at Lenox, June, 1921.

tion of the various deleterious matters which are to be found in confined air, to measure these substances, and to set arbitrary standards of permissible pollution in such confined air. For years the index of impurity was expressed in amounts of carbon dioxide present and it was generally considered that if the amount of this compound in any place of assembly did not exceed a certain amount the air was pure enough for human needs. Later on, it became evident that the carbon dioxide content was not so important as had at first been thought and attention was given to the odoriferous emanations given off by the body. These, naturally, were very hard quantitatively to estimate. At present we are told that neither carbon dioxide nor body odors are of real importance, but that ventilation, to be successful, should keep body heat and humidity below a certain level, so that, practically, good ventilation means good heat elimination.



Side elevation of ward and sleeping porch of children's department of Sharon Sanatorium, showing ventilating system. The height from the floor to the top of the monitor is 15 feet. Arrows show direction of air currents.

- |                                 |                          |
|---------------------------------|--------------------------|
| A Ward, 13 feet wide.           | E Partition.             |
| B Sleeping Porch, 10 feet wide. | F Sash.                  |
| C Sash, 8 inches deep.          | G Sash, 12 inches deep.  |
| D Screen.                       | G' Monitor sash, closed. |

It is a matter of common knowledge that in any hall or assembly the air in the balcony seems more vitiated than the air upon the floor. It is certainly hotter and also it is more foul, because of the odors which arise. Further, we all know that in case of fire the first instruction is to get as near the floor as possible to escape suffocation. It is probably true, as well that in the upper strata of air there would be more carbon dioxide; for it is against reason to expect that a gas so little heavier than air will be found near the floor when there is any degree of heat, and where several people are gathered together the heat arising from their bodies will cause enough upward currents to carry much of the carbon dioxide with it.

Giving due consideration to these previously mentioned theories, let us consider how we may ventilate a square box of a room such as might be used for school purposes.

If we are to obey the law in Massachusetts, we are limited in our choice of ventilation to the plenum system or some modification of it. The law directs that there shall be outlets near the floor which shall insure the removal of two and one-half cubic feet of air per minute for each foot of the room. There shall be "inlets" for pure air equal to the amount removed, and at such height from the floor as to "insure proper circulation." If the room is to be used as a school the air may be supplied by pressure through the floor and the outlet may be through grills in the ceiling. These two methods are the only allowable ones in Massachusetts. That the standard we have mentioned, namely, that the air of the room should rival in purity the air outside, is far from maintained, is perfectly evident to anyone visiting a school after a class has been in session for an hour or more. If it did, there would be no need to consider fresh-air schools. The efficacy of the plenum system was thoroughly tested at the Massachusetts Hospital School in Canton by the superintendent, Dr. John E. Fish, some years ago. Certain rooms, as thoroughly equipped as possible for ventilating by this system, were filled with a dense smudge and it was found that they were cleared of the smoke only after thirty minutes. The fact that smoke was not thus removed would make us believe that the other deleterious substances were not removed.

Apparently, Connecticut is more liberal than Massachusetts because at Fairfield, in that state, there is a school in which the windows may be raised somewhat and the air currents diverted upward by glass guards placed a few inches inward from the sash. There are, in addition, openings on the inner wall near the ceiling for the vitiated air to escape. Those who have visited the school claim that it is far superior to the usual system of ventilation. The reason for its efficiency may be found in the fact that it is, in reality, a modified monitor system.

We may, however, ventilate our square room by taking out all the windows on one or more sides. We should then have an open-air school and it would be necessary to provide special protection for the pupils in cold weather. Occasionally there are times, with the windows removed from one side only, when pocketing of air in the far side of the room may occur. Dr. Fish also tested this possibility by making a smudge test with the model and found that with one side removed and a gentle wind blowing the smoke stayed banked in the farther side of the model for a considerable period.

Finally, we might ventilate the room by an opening in the ceiling and we should then have the beginning of the monitor system. We should find, however, that in order to remove the vitiated air best the ceiling should be raised in its center to a peak like the ceiling in the

attic of a house. Dr. Fish made some experiments in sleeping wards with this system of ventilation, and found that a dense smudge passed out of the room in a few seconds when the monitor windows were open. These experiments at the Hospital School were made in 1915 and were so conclusive that no building has since been erected on the grounds of that institution which did not have the monitor system of ventilation. Many of the buildings were experiments in architecture and frequently far from pleasing to the eye, but the ventilation in all of them is perfect; that is to say, the system does what no other system has been known to do—it makes the air inside the buildings seemingly as pure as out-of-door air. At no time can foul odors be detected, nor can any odors which arise from the cook stove, which is placed directly in the center of several of the buildings, be detected in any other portions of the buildings. In the infirmary, even, where there are frequently children with foul discharging wounds, there are never any bad odors.

From our two years' experience with the monitor system at the Sharon Sanatorium, we have gained so much enthusiasm that we would not be willing to have another building constructed which was not ventilated in this way.

So far as I know, there is but one school in the country which has the monitor system. This is in Canton and was erected largely because of Dr. Fish. It has one story only and architecturally is very good looking. It has been in operation now for some three or four years and all of the teachers are exceedingly enthusiastic. Many of them have taught in other schools with other systems of ventilation and it is their impression, although no data have been collected, that the incidence of respiratory diseases amongst the pupils is much less than in an ordinary school room. I have been in the rooms during crowded sessions and could distinguish none of the customary school-room odors. The story is told, although I cannot vouch for it, that the inspectors said that they could not pass the building as it was contrary to law, to which the committee who built it replied, "We do not care, but will you condemn it?" To this the inspectors said, "We cannot condemn it because it is perfect." At any rate, there it stands, contrary to Massachusetts law—the best ventilated school in the country.

Some of the advantages of the monitor system are apparent. Where it has been used, it has solved the problem of ventilation and is very easily regulated. The air in a room equipped with it cannot be detected as more impure than outside air, and at the same time heat may be present, and in fact should be present for the success of the system, so that extra wraps are unnecessary. When used in schools, the results are practically as good as in an open air school and far less rigorous for

the pupils. With it there are no perceptible drafts, so that there is no need of extra clothing. As a ventilating system for hospitals, auditoria and other places of assembly it would be equally desirable although possibly not always practical.

Some of its disadvantages are that it will not work of itself. Some little attention is necessary to operate it with success. In that connection it happened that one cold day in early spring I made a trip to the Canton school above mentioned. In the first room visited I found an elderly teacher and four or five pupils. The monitors were closed. The air, while not bad, was not perfectly sweet. While I stood there the teacher opened the monitors a moderate degree, and inside of thirty seconds the air was perfectly fresh and good. On the other hand, if the monitor system will not work of itself, neither will any other system, so that this objection to it falls by its own weight. Another disadvantage is that many architectural problems are presented where more than a one-story building is erected, but these are not insurmountable. One other disadvantage is that a little more heat is required, but this is not excessive in amount, and a few tons of coal additional is hardly to be put in the balance with strong bodies and more active minds. Still another objection may be that it would be hardly practical in certain noisy or dirty places in the city. It is very possible that the plenum system would be found necessary to properly ventilate many such buildings, but monitor ventilation could doubtless be modified to fit particular needs so that better results could be had at a less cost. Its use has only begun. As it becomes better known there is small doubt that the demand for it will grow, that architecturally it will be made pleasing and that those who fail to use it in public buildings will be required to give good reason for the substitution for any other method of ventilation.

#### PESSARY WORN WITHOUT REMOVAL FOR ELEVEN YEARS.

By CHARLES J. KICKHAM, M.D., BOSTON.

It is not often that a case comes to attention where a foreign body has been retained in the vagina for several years without serious damage resulting. It is the first case of the kind which has come under my immediate care; though we all have seen cases where the patient has retained a pessary for several months, with marked local symptoms.

Miss M. O., aged 38, single, clerk. Past History—Eleven years ago was operated on for dysmenorrhea; at that time a dilatation and curettage was done and a pessary inserted to replace a retroverted uterus. The patient

states that at the time of leaving hospital the physician told her of the pessary and asked her to return for its removal. She did not return, and gave no good reason for not doing so.

Her dysmenorrhea did not improve as a result of operation, but she had no symptoms directly attributable to the retained pessary, except that at regular periods her backache was worse and she had considerable leucorrhea following period. During the past year she has had more severe menstrual pain and the leucorrhea has become almost constant and foul. Up to present illness she never consulted a physician or told anyone of the pessary, and she did not think that it was "doing her any harm."

**Present Illness**—Consulted family physician, Dr. F. L. Lyons, about some minor disorder and indirectly mentioned about the pessary. He immediately advised her to have it removed, and sent patient to writer. At this time patient's local symptoms were foul vaginal discharge and severe backache, with increased pain at menstrual periods, which latter were always regular and normal in quantity and duration.

**Vaginal Examination**—External genitals bathed in sero-purulent discharge not particularly foul; internal examination showed ring type of solid rubber pessary, in good position, surrounding cervix and not adherent to vaginal tissues; pessary removed with little difficulty. Inspection showed vaginal walls reddened and bathed in sero-purulent discharge, which discharge came from cervix; vaginal vaults thickened and indented to shape of pessary but not eroded; cervix reddened, oedematous and edges eroded and everted; thick, foul mucoid material in cervical canal. Nothing abnormal found on palpation of adnexia. Uterus in fair position.

**Follow-up Record**—Since removal of pessary backache has been relieved and patient feels no discomfort in pelvic region; under local applications to eroded cervix together with ichthyol-glycerin tampons, cervix improved, though some oedema of cervix remains; vaginal discharge diminished in quantity and foul odor disappeared. Has had two regular menstrual periods since removal of pessary and with both had very little pain.

**Comment**—Pessary, after removal, examined and rubber seemed as perfect as a new one; it maintained its contour and smoothness, and had very little caseous crustation.

It seems strange that in eleven years this foreign body did not do more damage to the vaginal mucous membrane; that the patient did not show more severe local symptoms from its presence; that an adult patient would allow a pessary to remain for so many years and not seek medical advice; that the rubber would maintain its integrity for such a long period.

## ELIZABETH ANGELA RILEY, M.D.

DR. ELIZABETH ANGELA RILEY, a Boston gynecologist, died at the home of her sister in Allston, October 27, 1921. She was born in Boston in 1868, graduated from the Tufts College Medical School in 1897 and for the past eight years had been instructor in gynecology and abdominal surgery in that school, being the first woman to be appointed to the faculty.

At one time she was superintendent of the Woman's Charity Club Hospital on Parker Hill and later she founded the Bay State Hospital in Boston. About a year ago her health failed and she took a trip to Europe, returning only recently. She had been a member of the Massachusetts Medical Society since 1900, and also held membership in the American Medical Association.

## DEATH RATE IN BOSTON

DURING the week ending October 29, 1921, the number of deaths reported was 191 against 193 last year, with a rate of 13.15. There were 22 deaths under one year of age against 31 last year.

The number of cases of principal reportable diseases were: Diphtheria, 57; scarlet fever, 27; measles, 21; whooping cough, 1; typhoid fever, 4; tuberculosis, 42.

Included in the above were the following cases of non-residents: Diphtheria, 6; scarlet fever, 2; tuberculosis, 5.

Total deaths from these diseases were: Diphtheria, 4; typhoid fever, 2; tuberculosis, 15.

Included in the above were the following cases of non-residents: Diphtheria, 2; tuberculosis, 1.

## TUBERCULOSIS.

THE mortality from tuberculosis in New York City is 149 per 100,000 males and 85 among females. During the past eleven years the death rate among both classes has been practically cut in half, but the irreducible minimum has not been reached. The reasons for the difference in the sexes is probably due to conditions outside the home, hence progress must be made in working conditions or habits. The crest of mortality among women is in the ages between 20 and 24 years, probably due to the effect of industrial life on these people, which in many instances involves changes in diet and physical strain. The work of the New York Tuberculosis Association is under the direction of Y. Byron Deacon, who has had a long and successful career in public health organizations.



# THE BOSTON Medical and Surgical Journal

Established in 1828

THURSDAY, NOVEMBER 10, 1921

Published by The Massachusetts Medical Society under the jurisdiction of the following-named committee:

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Communications should be addressed to the Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.

## A NEW PROPHET.

FOR many years physicians have been attacked for practising or endorsing vivisection, and intensive efforts have been made to secure the enactment of laws prohibiting research by animal experimentation. With civilization, sympathy for suffering develops and appeals for the protection of lower animals find responses in the hearts of generous people. Unfortunately sympathy and generosity are not always exercised under intellectual control, and one does not have to go far afield to find examples of poor judgment in matters which appeal to the emotions. Another quality of the human mind is often difficult to deal with when it is found that some people are ready to endorse criticism of one of whom personal knowledge is lacking, and because there are real examples of brutality and depravity in human life, some otherwise well-intentioned people are ready to accept gossip as evidence of wrongdoing.

Probably no class of people have been made the subject of jibes and sneers more than physicians, for although in personal relations the bond between doctor and patient is often strong, the individual patient may regard other doctors contemptuously and believe accusations of inhumanity when applied to a stranger. Whatever the psychology of the situation may

be, the fact exists that a large and influential body of people have come to the conclusion that in the study of disease problems, investigators are indifferent to animal suffering exactly as a small proportion of people believe that surgeons have little compassion for the unfortunate one requiring an operation, so that a band of self-styled reformers are using every known method to secure abolishment of vivisection.

Physicians practically alone have hitherto been the only active opponents of the anti-vivisectionists, and have been sorely tried by the ungracious and often bitter criticisms presented, but every great cause sooner or later calls into action a great leader, and the study and constant labors of Dr. W. W. Keen exerted throughout the country, and the work of our own committees on legislation, ably supported by Dr. Ernst, Dr. Cannon and other teachers in our medical schools, is now augmented by a keen and virile mind in the person of Ernest Harold Baynes, a veritable knight errant in the cause of mercy to the human race, now supplementing his lifelong devotion to animals. His enlistment in this contest brings comfort to our ranks for his arguments based on personal study and observation of actual conditions, are beyond logical refutation. His chivalry is not inspired by weak sentimentality, nor his devotion to this cause weakened by personal ambition, but rather spurred by a conviction of the importance of the issues. Like all great leaders, he enters the arena with charity for all and malice toward none, abandoning the easy path, and calmly meets the heckling of the bitterest critic. The profession of medicine should welcome him to the ranks of the defenders of human as well as animal life, for the power of his argument which cannot be assailed on the ground of personal advantage, will carry conviction to fair minded persons.

A new era has come. Scientific medicine is again vindicated. Human life will be more secure. The efficiency of the race will be enhanced.

## "FORSYTH DAY."

THE Trustees of the Forsyth Dental Infirmary will hold the exercises of "Forsyth Day" on the afternoon of the twenty-first of November, 1921.

Although the work of this institution has been large and of great value, it is probable that the medical profession has not become fully acquainted with the scope and amount of service rendered.

Modern medicine regards dentistry and all the problems of oral hygiene as of tremendous value in the prevention of disease and development of the individual as well as the preservation of efficiency.

Although great demands are being made on the time of physicians in connection with the activities of special groups which are devoting

intensive study to individual diseases and disseminating information relating to them, medical men may profitably devote sufficient time to enable them to acquire information about this valuable institution.

Evidence of coöperation as shown by attendance at the exercises provided will be encouraging.

Dr. Oscar M. Schloss, Professor of Pediatrics at the Harvard Medical School, will speak on the Relation of Malnutrition and the Teeth, and Dr. Timothy Leary will explain the work of the Forsyth Infirmary.

The medical profession should be well represented at this meeting.

### MEDICAL NOTES

**CENSUS BUREAU'S SUMMARY OF MORTALITY STATISTICS, 1920.**—The Department of Commerce announces that the Census Bureau's annual report on mortality statistics, which will be issued shortly, shows 1,142,578 deaths as having occurred in 1920 within the death registration area of continental United States, representing a death rate of 13.1 per 1,000 population as compared with 12.9 in 1919, which was the lowest rate recorded in any year since the registration area was established in 1900.

The death registration area (exclusive of the Territory of Hawaii) in 1920 comprised 34 states, the District of Columbia and 16 registration cities in non-registration states, with a total estimated population on July 1st, of 87,486,713, or 82.2 per cent. of the estimated population of the United States. The State of Nebraska was added to the registration area in 1920, so that at present the only states not in the area are Alabama, Arizona, Arkansas, Georgia, Idaho, Iowa, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, West Virginia, and Wyoming. The figures for the Territory of Hawaii will appear in the report, but they are not included in this summary.

The death rate from pneumonia increased from 123.5 per 100,000 in 1919, to 137.3 in 1920. For chronic diseases of the heart, the rate increased from 131.0 to 141.9; for cancer, from 80.5 to 83. Some of the other diseases for which the rate increased are whooping cough, measles, cerebral hemorrhage, congenital debility and malformations, puerperal fever, scarlet fever, and appendicitis. Automobile fatalities and injuries show an increase from 9.4 per 100,000 in 1919 to 10.4 in 1920.

A marked decrease in shown in the death rate from tuberculosis, which was 114.2 in 1920 as compared with 125.6 in 1919; also in the death rate from influenza, 71.0 in 1920 as against 98.8 the year before. The death rate from suicide declined from 11.4 in 1919 to 10.2 in 1920. There was a decline also in the rate of typhoid fever and in that for accidental drowning.

**INEFFICIENCY DUE LARGELY TO IMPERFECT SIGHT.**—In a careful examination of ten thousand industrial and commercial workers, active in their work and supposedly in good condition, 53 per cent. showed defective vision uncorrected. It is a fact that many employees are accused of inefficiency and carelessness when it is entirely a matter of imperfect vision.

The motion picture camera is made in imitation of the eye. The better the condition of the lens and the better the illumination of the object, the better the result of the photographer's effort. Just so with the more perfect instrument, the eye. It behooves everyone to see that his eyes are kept in good condition and free from eye-strain coming from defects which may be corrected by glasses, or the strain due to improper lighting.

### INSTRUCTIVE DISTRICT NURSING ASSOCIATION.

—The increase in the work which, for the first time this year, began in August has continued throughout September. While not heavy, it is good for the season, when summer diseases are practically over and those of the cold weather not yet begun.

Typhoid fever continues to be unusually prevalent, seven new cases coming under care during the month. There were very few patients with measles, whooping cough or chicken pox; while three cases of erysipelas were the first for several months. Pneumonia, 30 cases, and influenza, five cases, seem about normal for the time of year. There were also about the usual number of patients with tuberculosis, and heart disease, 17 each. Each summer adds a few infantile paralysis patients to our list, four new ones coming to us during October for after-care. Almost 25% more new-born babies and fully 25% more pregnant women were cared for than during the same month last year. Among the special branches of the work, the attendance at delivery—service offered in four stations only—was about normal, while the Child Health Clinic was more active than during the summer.

**Fees.**—\$2,161.46 was collected in fees, —\$211.06 less than in September, 1920. This, in view of the unemployment, which is definitely affecting the ability of the patients to pay for nursing care, speaks for the value placed on the service.

**Child Health Clinic.**—Among the 250 children between the ages of two and fourteen years, who, six months after its opening, were registered at the Child Health Clinic over 30 per cent. were found to have adenoids and diseased tonsils; 8 to have heart disease; 1 pulmonary tuberculosis; 2 question of tuberculosis.

Only 15 were found to be free from any disease or defect, while they averaged two defects each, and some had as many as four. All children admitted were in supposedly good condition.

The clinic, which is in charge of a physician

who is a specialist, is open to any child in Hyde Park. A thorough physical examination is given each child who enters, and follow-up visits are made to the homes by the visiting nurses attached to the Health Centre—of which the clinic is a part,—for the purpose of explaining to parents the defects, their possible consequences and the importance of correcting them in time.

As there is no other diagnostic clinic in the vicinity, while those of Boston are two care feres distant, the chances are that without the Health Clinic most of these children would never have an opportunity for a complete physical examination. Many of the youngsters come of their own accord and ask to be examined.

**MASS. ASSOCIATION OF BOARDS OF HEALTH.**—The October quarterly meeting was held at the Biological Laboratory of the State Dept. of Health at Forest Hills, October 26, 1921. An attendance of sixty-one, which is much larger than usual, was most gratifying.

Mr. George E. Bolling, Laboratory Director and Milk Inspector of Brockton, Mass. read a very instructive paper on "Milk Inspection."

Prof. James Jordan of Boston Health Department opened discussion with an equally fine paper, taking another angle of the subject. Dr. Stack and Dr. Page also entered into the discussion.

Dr. Benjamin White, Director of the State Biological Laboratories, then took the party in charge, conducting it through the processes of inoculating and bleeding horses for various serums, also showing the full process of small-pox vaccination and securing virus on a calf, and inoculation of guinea-pigs with various diseases.

**THE BROOKFIELD MEDICAL CLUB.**—Between Worcester and Springfield there is an organization of doctors, coming from three counties and including Leicester, Spencer, the Brookfields, Ware, Palmer, and smaller towns which has been "doing things" for some 40 years. As the writer was privileged to attend their last meeting and enjoy of their hospitality, he thought the readers of the JOURNAL might be interested in some report of the club.

Their meetings are held the third Wednesday of each month and each member entertains by turn at dinner. Last week Dr. G. H. Ellison of Spencer was host and an excellent dinner was served at the Inn at East Brookfield. Dr. Ellison, by the way, is credited with instigating the movement which provides an extension lecture course for physicians about Worcester each winter. Dr. E. A. Trowbridge of Worcester read a paper on "Professional Ethics"—"The duties to oneself, to confrères and to the public." He cited instances of how "hospital and free clinic patronage may involve an abuse of the ethical spirit." "The public is often handicapped in the selection of specialists."

"Some form of listing them might be employed to assist in such selection." "There is a varying range of ethical procedure between the city and country, the East and the West." One could not but note the spirit of responsiveness and acquaintanceship between the speaker and audience which made such a treatise doubly valuable. Dr. G. A. Moore of Palmer opened the discussion. The "exactions" which "insurance and industrial concerns" put upon physicians was touched upon. The matter of "posting up rules of ethics" in offices was suggested but it was felt that a more frequent and open discussion of the general principles would tend to encourage an acceptable practice of the Golden Rule.

Dr. J. R. Fowler of Spencer, Dr. D. M. Ryan of Ware, and Dr. G. E. Dalton of Warren, are a special medico-legal committee of the club, and evidently intend to be an energetic one, judging from a recent letter of their chairman in the columns of the Journal, and realize the necessity to "maintain our independence as a profession, arouse ourselves to that individual responsibility which is ours."

One could not but feel that the afternoon was spent very profitable to all and also wish that such live organizations might obtain in all corners of the state.

PAUL W. GOLDSBURY.

Deerfield, Mass., Oct. 26, 1921.

**THE ARSENIC PREPARATION FOR THE TREATMENT OF SYPHILIS.**—The Hygienic Laboratory of the U. S. Public Health Service have, during the last three years, examined samples of arsphenamine and nearsphenamine from practically every domestic manufacturer.

Many preparations of nearsphenamine were encountered in which striking changes were noticed in many of their physicochemical properties, such as changes in color, solubility, mobility in ampule, and odor. No instances of such changes were found in any of the arsphenamines examined.

The official names arsphenamine and nearsphenamine are used to designate the compounds formerly known exclusively as salvarsan and neosalvarsan, respectively, but now being manufactured under various trade names.

According to an act of Congress (32 Stat., 728) and regulations issued by the Secretary of the Treasury, all arsphenamine and allied products must be examined by the Federal Government before being released for interstate or foreign trade. Such examination is made in the Hygienic Laboratory of the United States Public Health Service and consists of both chemical and toxicological tests. Briefly, the regulations require that in the toxicological tests, white rats weighing between 100 and 150 grams shall live 48 hours when given arsphenamine intravenously as a two per cent. alkaline aqueous solution, in dosage of 100 mgm. per

kilo, 0.9 c.c. of normal sodium hydroxide being used to alkalize each 0.1 gm. of arsphenamine. White rats of similar weights are required to live seven days when given neoarsphenamine as a four per cent. aqueous solution in dosage of 200 mgm. per kilo. The rate of injection for both compounds shall be from 12 to 15 seconds for each 0.1 c.c. of fluid. The details of the tests are to be found in Miscellaneous Publication No. 22 of the United States Public Health Service, 1920.

It thus appeared that arsphenamine was the more stable of the two compounds and that further investigation of the keeping qualities of neoarsphenamine was especially imperative.

**Bristol South District Medical Society.**—The semi-annual meeting was held at the Public Library, New Bedford, on Thursday, November 3, 1921, at 5 P.M. Dr. Robert L. DeNormandy of Boston spoke on "Maternal Benefits." The Censors met the candidates for membership at the same place at 4 P.M.

A. J. ABBE, *Secretary*.

The following program for Cancer Week was followed in Greenfield: "Present Knowledge of the Causation of Cancer," Dr. A. H. Ellis, Greenfield; "The Early Diagnosis of Cancer," Dr. R. H. Philbrick, Northfield; "Radium and X-ray in the Treatment of Cancer," Dr. G. P. Twitchell, Greenfield; "What does Surgery Offer as an Immediate and Ultimate Result in the Treatment of Cancer?" Dr. C. L. Upton, Shelburne Falls.

J. A. MATHER, *President*.

CHARLES MOLINE, *Secretary*.

DR. J. J. FLYNN of Pittsfield, is confined to the House of Mercy Hospital following a slight operation.

DR. M. H. WALKER, JR., has returned to his practice following an appendectomy.

DR. P. J. SULLIVAN of Dalton, is confined to his home by illness.

DR. BRACE W. PADDOCK, vice-president of the State Society, has just left for a three weeks' holiday hunting in Wyoming. He expects to visit some of the western clinics on his way home.

GILBERT T. SMITH, M.D. (for twenty years connected with prominent State Hospitals), formerly Assistant Superintendent of the South Dakota Hospital for Insane at Yankton, South Dakota; recently Assistant Superintendent of the Mansfield State Training School and Hospital, Mansfield Depot, Connecticut, was appointed in April, Chief Surgeon of the S. S. "Mount Carroll," United American Lines, Inc., 39 Broadway, New York.

**MERCK'S NEW REAGENT CATALOG AND PRICE LIST.**—Merck & Co. are distributing a new edition of their booklet, "Blue Label Reagents and Other Laboratory Chemicals." Merck's Blue Label Reagents, familiarly known as M. B. L., are made according to the requirements in "Standards and Tests for Reagent Chemicals," published in 1920 by D. Van Nostrand & Co., of New York, and a special feature of the new catalog is the concise summary under each reagent showing its standard of purity, methods of testing, and other data taken from that textbook with the author's permission. Such of Merck's "White Label" chemicals of H. P., "C. P.," and other grades as are of particular interest to laboratory workers, are also listed, and current prices are given throughout. The booklet, therefore, should be of interest to chemists generally as a manual and price list.

Copies may be obtained by addressing Merck & Co., 45 Park Place, New York.

**FACTS ABOUT VACCINATION.**—The anti-vaccination forces will be active as usual during the legislative sessions. The assertion was made last winter, during a hearing before the Committee on Public Health, that compulsory vaccination would be abolished within a few years. Physicians should be engaged in placing facts before the public so that a general understanding of the whole question may be in the minds of legislators.

The Public Health Service has published the following figures obtained from State health officers. These reports cover eight states for the year 1920 and seven states for the first six months of 1921:

For the year 1920, the total number of cases in which the histories were given is 16,311, of which 71.3 per cent. had never been successfully vaccinated; 4.2 per cent. had been vaccinated more than seven years preceding the attack; 2.5 per cent. had been vaccinated within seven years of the attack; and in 22 per cent. of the cases the vaccination status was not obtained, or was uncertain.

For the first six months of 1921, of 18,374 cases reported with history, 60.3 per cent. had never been successfully vaccinated; 4.7 per cent. had been vaccinated more than seven years preceding the attack; 1.6 per cent. had been vaccinated within seven years of the attack; and of 33.4 per cent. of the cases the history was not obtained or was uncertain.

**THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL** announces that there are now available several scholarships under the terms of the Oliver-Rea Endowment.

The purpose of the Endowment is to further post-graduate medical education by awarding scholarships to practising physicians of the United States. The scholarships vary in

amount but are sufficient to defray in full or in part the tuition fees of the Post-Graduate Medical School for the courses offered.

According to the wish of the donor, physicians of the State of Pennsylvania will receive preference in the award of these scholarships.

Applications may be sent to the Dean of the New York Post-Graduate Medical School and Hospital, 20th St. and Second Ave., New York City.

DR. ZENON A. LAVOIE of Manchester, has been appointed to membership on the Board of Registration in Medicine of New Hampshire.

**MASSACHUSETTS GENERAL HOSPITAL.**—A Staff Clinical Meeting was held in the lower Out-Patient Amphitheatre on Monday, November 7, at 8.15 P.M. Program:

Orthopedic Meeting, Dr. R. B. Osgood presiding; Strychnine Poisoning Treated by Magnesium Sulphate, Dr. H. S. Dorrance; Discussion by E. C. Cutler; Congenital Dislocation of the Hip and Bone Tuberculosis in France, Dr. Z. B. Adams; Scoliosis, Dr. Armin Klein; Ankylosing Operation on the Spine, Dr. Lloyd Brown.

F. A. WASHBURN, M.D.,  
Resident Physician.

THE meeting of the *Research Club* to be held at the Harvard Medical School Amphitheatre in Building A, at 12.30 o'clock on Friday, November 11th, will be addressed by Dr. C. T. Brues, on "Certain Apparently Symbiotic Microorganisms in Scale Insects."

STUART MUDD, Secretary.

**BOSTON ASSOCIATION OF CARDIAC CLINICS.**—A society known as the Boston Association of Cardiac Clinics has been recently organized.

The first open meeting of this society was held at the Boston City Hospital last May.

The object of this association is to further in any way the prevention and relief of heart disease in this community. A committee of the association has arranged a series of open meetings to be held during the next eight months. The discussion in these meetings will not be limited to those especially trained in cardiology, and it is particularly hoped that practicing physicians will attend, and contribute to the discussion. All physicians, social workers, and others interested in the problem of heart disease are invited.

Thursday evening, November 17, 1921, 8.15 P.M., Massachusetts General Hospital—Classification of Cardiac Diagnosis, Paul D. White; Problems of Cardiovascular Research, Samuel A. Levine.

Thursday evening, January 19, 1922, 8.15 P.M., Peter Bent Brigham Hospital—Potential Cardiac Disease and the Development of Organic Disease of the Heart in Children, W. P. St. Lawrence, of New York City.

Thursday evening, March 16, 1922, 8.15 P.M., Boston City Hospital—The Heart in Industry, W. Irving Clark, Jr., Norton Co., Worcester, Mass.; Tests of Cardiovascular Function (speaker not yet determined).

Thursday evening, May 18, 1922, 8.15 P.M., Children's Hospital, Boston—Heart Disease in the Schools; Heart Disease in the Community.

WILLIAM H. ROBEY, M.D., *Chairman*.  
PAUL D. WHITE, M.D., *Secretary*.  
GEORGE P. DENNY, M.D.  
PAUL W. EMERSON, M.D.  
WILLIAM D. REID, M.D.  
RICHARD S. EUSTIS, M.D.  
BURTON E. HAMILTON, M.D.

**THE SCHICK TEST.**—Dr. C. A. Earle read a paper before the Chicago Medical Society October 12th, ult. His conclusions are in accord with the findings in New York, where more extensive work on this subject has been done than anywhere else in the world. Among his conclusions are the following:

Owing to the high percentage of non-immunes up to six years of age, it is a question whether it would not be wise to give TA mixture to all and not bother with the Schick test.

On account of the severe reaction following use of TA in adults and their relative community, only nurses and doctors giving Schick reactions should receive TA.

The encouraging reports of general better health conditions with the unpleasant information of the increase of diphtheria in this State, makes the use of toxin antitoxin as logical as antityphoid vaccine.

**NOTICE.**—Reporters of news from the district societies should have notices of meetings in not later than Saturday forenoon. The printers do not work Saturday afternoon and the material is locked in the forms on Monday and goes to press Tuesday morning. The wrapping and mailing begins Wednesday. Please forward copy early.

**CHESHIRE COUNTY HOSPITAL, N. H.**—A campaign is being conducted in Cheshire County, N. H., for the erection of a new hospital building in Keene. The present hospital building will be used for administrative purposes and the new building will be of modern hospital construction. The amount to be raised is \$225,000. Fifty thousand dollars was raised the first day of the drive.

The management of this campaign is under the direction of the firm of Will, Folsom & Smith, 512 Fifth Ave., New York City. This firm raised \$200,016 for the Beverly Hospital in 1920.

**THE TRUMBULL HOSPITAL.**—A new hospital under the title The Trumbull Hospital, corner



of Pond Ave. and Allerton St., Brookline, is nearing completion. The corporation is under Massachusetts laws with a capital of \$150,000, with an office at 40 Court St., Boston.

The president is Walter V. Dunton, who with Joseph P. Baptiste, treasurer, and Dr. George H. Washburn constitute the board of directors. The advisory board consists of Dr. George H. Washburn, Dr. Mark H. Rogers, Dr. David D. Scannell and Dr. George H. Powers.

The capacity is fifty beds and the work will consist largely of surgical and obstetrical cases.

Mr. Wm. W. Colton is general manager.

#### NOTES FROM DISTRICT MEDICAL SOCIETIES.

**WORCESTER DISTRICT MEDICAL SOCIETY.**—The next meeting of the Worcester District Medical Society will be held November 9, at 8.15 P.M., in the Knights of Pythias Hall, Post Office Block, Spencer, Mass. Dr. Philip Cook of Worcester, will read a paper on The Effect of the Roentgen Ray on Lymphoid Tissue. Dr. Noel G. Monroe of Southbridge, will read a paper on The Value of Optical Examinations in Industrial Plants. Refreshments will be served.

Dr. E. L. Hunt, Local Director of the Worcester Extension Course at Harvard Graduate School of Medicine, has announced the arrangement of the annual lecture course. Dr. J. L. Morse will lecture November 16, 23 and 30, and December 14; Dr. Franklin White, December 7, and Dr. Paul White, January 4 and 11. If the enrollment warrants, a further course of three or four lectures will be arranged. The enrollment fee of ten dollars may be sent to Dr. William F. Lynch, 390 Main street, Worcester, Mass.

Dr. Kendall Emerson, late Red Cross Commissioner in Europe, addressed the Staff of the Memorial Hospital, Worcester, at their regular clinical meeting Friday evening, October 28, 1921, on Medical Conditions in Europe. He said, in part, that the work of the Red Cross in Europe was divided as it were, into three phases. The first phase was during the war, when it did a large part of the emergency work and supplied large quantities of surgical supplies for the medical department of the army, and was working at the height of efficiency in November, 1918, when it had on hand large sums of money, and warehouses full of supplies. The second phase was devoted to civic relief during the reconstruction period. The surplus supplies were sent all over Europe and distributed where the need was greatest, with the intention of withdrawing when the supplies were exhausted. It was soon noted that something more than giving out supplies was needed, and this developed the third phase of the work. To Dr. Emerson himself was given the work

of organizing a medical program which would leave a permanent stamp of the Red Cross on Europe, and he decided to devote his efforts to child welfare work. He paid a tribute to foreign medical men who worked hand in hand with the Red Cross officers, and together they established Child Welfare Stations in many countries which, after the work was well organized, were left in the hands of local men. He paid a tribute to the work of the Red Cross nurses and said that the welfare stations and clinics would live on indefinitely and would be a real asset for friendship with European countries. In discussing some of the medical problems, he said that typhus fever was not the dreaded disease that we thought it was here. Its mortality was no greater than typhoid fever here, and it was easy to avoid and check with soap and water. In one epidemic in which nine hospitals cared for the typhus patients, the Red Cross Hospitals were the only ones where there was no typhus among the personnel. In Russia, every child has typhus just as children here have measles and are thereafter immune. In all the epidemics the American Red Cross lost thirty workers from typhus.

He discussed starvation as a disease where the most pronounced effect was noted among the children. The German children did not seem to be suffering very much from starvation, but in Vienna it was very pronounced. The hospitals were full of thin, anaemic, oedematous, pot-bellied children suffering from bed-rock starvation. All bed patients were treated on 50% of the normal calories required. The babies were fed on a puree of dandelion greens with other cereals, as milk was scarce and canned milk more scarce. In Budapest, the hospitals lacked bed linen, and he saw women going out of the Lying-in Hospitals with babies wrapped in newspapers, as there were no clothes for them. The Red Cross furnished thousands of layettes for these hospitals. He said that you could imagine the condition in Southern Russia when you realize that there was not as much grain grown this year as they usually need for seed. In Russia he found diphtheria, smallpox, scarlet fever, and typhus, all in the same ward in some hospitals. Nurses in Siberia were ill trained. Although it was intensely cold, they preferred to go about bare legged. When offered woollen stockings by the Red Cross they would not wear them.

R. J. WARD, M.D.,

Reporter for Worcester District.

THE APPLIED PSYCHOLOGY CLUB OF WORCESTER, MASS., invites the members of the District Medical Societies and their wives to attend a lecture by Dr. William G. Anderson, Professor of Physical Education and Director of the Gymnasium at Yale University, to be given in Tuckerman Hall, Worcester Woman's Club Building, Monday evening, November 21, at 8 P.M.

The subject of the lecture will be, "Keeping Fit at Fifty."

FRANK E. STOWELL, M.D., Pres.

## Correspondence.

## "ROBBING THE DOCTOR'S BREAD BASKET."

Spencer, Mass., October 19, 1921.

Mr. Editor:—

It was with great interest that I read your brief but well worded editorial entitled "An Outrageous Label," in the last issue of the JOURNAL. It would be amusing, were it not such a serious matter for the majority of physicians to learn that their trader in this instance is a representative of an "Electrical manufacturing" concern.

Of all corporations doing business in our country today, the employees and officials of these electrical combinations are known to ask and receive large wages for their services. Hence, such a charge as stated in your editorial, that the fees of physicians "are so outrageously exorbitant that they are like sentencing the sick to death," comes with poor grace from such a source. How often the average physician has asked himself, and now I ask you: Why should a lawyer get \$10.00, without moving from his seat, for making out a lease that any trained stenographer can fill out in ten minutes, while a physician gets only from one to three dollars for diagnosing and prescribing for patients' ills, the correction of which will keep him fit to earn thousands?

Why, "Mr. Westinghouse Representative," does a mechanical engineer get from \$50.00 to \$250.00 for looking over a plant and telling a manufacturer where to place machinery so as to get out of it maximum efficiency, whereas a physician gets but one-twenty-fifth to one-one hundred and twenty-fifth that sum for looking over a man and telling him how to get the maximum efficiency out of himself?

Why are attorneys able to collect their fees, usually in advance, and doctors two months to two years after the service is rendered, if at all? Why do physicians give away in fees in one city alone five to eight millions of dollars each year? Can any Westinghouse critic match this act of generosity in any other calling, his own included? Last year the forty-six hospitals in New York City, not maintained by the city, report that they provided 600,000 persons with free treatments for which neither the city or the individual beneficiary paid a cent. Many other cities report similar conditions. If statistics were available for the clinics and hospitals of the entire country, they would show that despite universal employment at that time at the highest wages the world has ever known in the history of man, from three million to five million inhabitants of this Utopian nation last year beat the doctor out of his bread and butter by seeking and receiving free medical and surgical treatment at these dispensaries of medical and surgical charities.

Figuring two treatments to a case, at one dollar a treatment, the medical profession has lost five to eight million dollars in fees through this undiscriminating medical charity alone.

Why do doctors give these large amounts away while men in other callings do not and are not expected to? Why are butchers, bakers, grocers and milk men, often without education, many hardly able to read or write, able to earn more money than thousands of physicians with education? Why do legislatures concede to lawyers practically every request they make for laws, increase the emoluments and safeguarding the interests of their profession, and refuse practically to pass laws increasing the emoluments and protecting the interests of physicians engaged in public health work and otherwise?

Why do doctors have to work 14 to 18 hours a day, seven days in the week, to earn the monetary rewards often less than that of mechanics who work five days a week of eight hours a day, a half holiday Saturday and all holidays off?

Why is it a doctor making an honest mistake in the treatment of a patient is sued for malpractice and often mulcted in heavy damages, while a lawyer making an honest mistake in the trial and conduct of a case is never sued and never obliged to pay a cent of damages?

Why is it we have to pay larger premiums for indemnity insurance than rum-sellers, manufacturers employing workers at hazardous tasks and almost every other type of risk?

These are the questions expressed by another, by ourselves and will be continued to be asked until a general solution has been made of the problems they present, acceptable to physicians as a whole.

Is it not, as one has expressed it, because we are considered the softest and easiest class on earth on which to impose and the value of the service we render the world the least appreciated. Isn't it time we woke up and got on our toes, time we became more aggressive for our rights?

GEORGE W. ELLISON.

## WORK OF THE CENTRAL DIRECTORY FOR NURSES.

Mr. Editor:—

I have been much interested in the splendid editorial in the JOURNAL in answer to the recently published interview of Dr. Charles H. Mayo in reference to sub-nurses. The reply is timely and should be satisfying to those of the nursing profession in Massachusetts, at least, who have felt keenly the implications of the Mayo interview.

There has been effort on the part of local newspaper reporters to engage both graduate nurses and others interested in nursing in a public discussion of this article, and the majority of nurses have chosen the better part of valor and have remained silent, believing that the more discussion given, the more weight would be given to Dr. Mayo's interview and the ideas he has expressed.

As one most intimately connected with nursing in Greater Boston, and as an instructor of nursing, and previous to my engaging in the profession of medicine, having been a graduate nurse, (and as far as I am able to learn, the only graduate male nurse ever serving on an executive board with graduate women nurses) experience has taught me that nursing is, and always must remain, a provincial problem geographically, and that while the nursing situation in Minnesota may be as Dr. Mayo states, this certainly is not the condition in Massachusetts.

It is a well known fact that in New England we have not yet reached the eight hour day for graduate nurses, and that the prevailing rate of nursing service is \$6.00 per day, in contrast with \$7.00 per day in the Middle West. Graduate nursing in private duty is still meriting the public approval, if we are to judge the reports of service given by our larger registries in Boston, and especially the Central Directory for Nurses in Boston, which is the largest directory of its kind in New England.

May I state the report of service for September?

Total number of calls .....	754
Calls from hospitals .....	645
Calls from homes .....	107
Calls filled .....	654
Calls not filled .....	100
Calls for graduate nurses .....	654
Calls for attendants .....	20
Calls for attendants filled .....	18
Calls for male nurses .....	56
Calls for male nurses filled .....	50
Calls for special executive nurses .....	2

From a summary of this evidence of nursing one will readily see that the graduate nurse is still much in demand and that the number of calls for attendants—into which class the sub-nurse must go—is quite limited. Can we say there is really any great demand for this form of service?

Again, we remark that the great percentage of calls come from hospitals, where the twelve-hour day for graduate nurses is in effect, and where the nurses are under the supervision of hospital superintendents of nurses.

The statement in your editorial: "There are so few private duty nurses left, they easily fall into the habits of some professional men and demand all that their clients can stand," is interesting in view of real conditions existing at the present time. It is quite true that Public Health and Industrial nursing have been attracting quite a few graduate nurses from private duty, but it is also interesting to know more of these fields as they actually affect nursing. At the present time, due to the marked industrial depression existing throughout the United States, there is a corresponding reaction upon the industrial phase of nursing, and many industries have been compelled to close their first-aid rooms and discharge nurses or are employing the same on a part time basis.

Only this month, a request came to the registry from a graduate nurse who was doing three days' work in a factory and desired to do week-end nursing or part time nursing in institutions—it is quite necessary that she have the income sacrificed for loss of time. It is also interesting to note that there have been more applications of registrants this month for private duty nursing than for many months previous, so that it is a much doubted question of the shortage of private duty nurses.

As to nursing rates and charges: It is a well known fact that there is no law which can regulate a nurse's charge—it is entirely her problem, and it is a matter of the patient's pocket-book in paying. Perhaps it is owing to the fact that we have such a splendid organization as the District Nursing Association to give nursing service at such a nominal charge that we have been able to take care of the problem in nursing as it affects the poor and their inability to pay for the full time service of a graduate nurse. The West could benefit by our experience in this regard and give to the poor, graduate service at a minimum cost.

One wonders if the experiment of sub-nurses were actually tried how the agencies that produce the sub-nurses can regulate the charges of this group and under what legal supervision. We haven't any laws that can regulate their charges. Should they persist, as do the present-day attendants, to charge excessively, then proportionately the graduate nurses' fees will advance and where shall we end?

The problem will always be one of demand and supply and it will be hard to reconcile facts as they exist here in New England with a real shortage of nurses. Even our training schools are reporting greater numbers of applicants and we are hopeful that the changing economic conditions will right the matter and there is no one who can help more to do so when the time comes than the graduate nurse. Despite criticisms to the contrary, she is still full of human understanding, and with the greater breadth of national influence, she has learned how to control the situation wisely.

Very truly yours,

DAVID HOWARD GIBSON, R.N., M.D.,  
Member Executive Committee,  
Central Directory for Nurses.

# THE ANNUAL MEETINGS OF THE MASSACHUSETTS MEDICAL SOCIETY.

Boston, October 25, 1921.

Mr. Editor:—

Some little time ago I noted in the BOSTON MEDICAL AND SURGICAL JOURNAL a letter expressing the belief that annual meetings of the Society should be held elsewhere than in Boston. This was followed by an editorial note that no invitation to meet elsewhere had been received by the Society for some time.

Ever since I came to New England, some twenty years ago, and began attending the annual meetings of the Massachusetts Medical Society, I have felt, and often said, that the annual meetings here were distinctly inferior to those of other state societies that I had attended. As years have gone by and I have had more experience with other societies, this opinion has been strengthened. To be perfectly honest, I think the Massachusetts Medical Society's meeting is a very poor meeting and that this annual meeting is below the standard of that held in many other states, notwithstanding the fact that the condition of the medical profession in most of these other states holding better meetings is not so advanced as it is in Massachusetts.

I have always felt myself that one reason for the Massachusetts Medical Society's annual meeting being a poor meeting was its continuous presence in Boston and that meeting always in Boston was not only a detriment to the quality of the meetings but a disadvantage to the Society in its influence throughout the state. Repeatedly I have attended meetings of other societies in towns smaller than at least a half dozen in Massachusetts and found the meetings well organized, well attended and very much worth while. Two years ago I gave an address at the Alabama Medical Society meeting in Anniston. Anniston has a population of only 17,734, and yet this was a most excellent meeting. Why should not Springfield, with a population of 129,338; Pittsfield, population 41,534; Worcester, population 179,741; Lawrence, population 94,270; Lowell, population 112,479; and Lynn, population 90,148, compete for the honor of entertaining the Massachusetts Medical Society at its annual meeting and take away from Boston at least a small percentage of these annual meetings? Very likely fewer would register at one of these places than would register in Boston. On the other hand, it is not registration that counts but the number who actually attend and participate in the various meetings. I believe that in any one of these other cities excellent meetings could be held, comparing favorably with those that have been held recently in Boston, and I see no reason why they should not be much better, because, after all, the ones held in Boston have not been very good.

Then it is to be recognized that the physicians living in the locality in which the meeting is held can and will attend when often it is almost impossible for them to go to another city. So rotation in the place of the meeting has the advantage that in a relatively few years a much larger percentage of the medical population of the state has attended an annual meeting than will be the case when it is always held in the single largest city of the state.

Finally, I am very certain that there is a distinct stimulation to the local profession from getting together and organizing the entertainment of the Society as well as from the actual information and instruction received by the profession at the meeting.

Why should not one of these larger cities in Massachusetts send an enthusiastic invitation to the Massachusetts Medical Society to hold the 1922 or at least the 1923, annual meeting in that place?

Very truly yours,

HENRY A. CHRISTIAN.

EARLY HISTORY OF WOMEN PRACTITIONERS  
IN MASSACHUSETTS.

Boston October 30, 1921.

Mr. Editor:—

The first woman to practice medicine in Massachusetts seems to have been Bridget Fuller, widow of the first physician, Samuel Fuller of Plymouth, who came over in the Mayflower. The town of Rehoboth asked Mrs. Fuller to settle in that town in 1663 as a physician. She did not accede to the request and died the next year. We may suppose that she had practiced since the death of her husband in 1653. Anne Hutchinson practiced in Boston during 1637 and 1638, possibly longer, as some authorities put her departure from the town, by advice, in 1642. Associated with her, possibly only as a midwife, was Jane Hawkins. Margaret Jones of Charlestown had a good practice previous to 1648 when she was hanged for witchcraft. We know that the only physician in Northfield, Mass., from the time of the first settlement in 1673 to the year 1716 was Patience Miller, wife of William Miller, a tanner. She was the mother of eight children and died at an advanced age in 1716. There were few physicians of either sex in the hinterland in those days as is attested by the statement in the history of the town of Hadley that Northampton had no physician from 1670 to 1730.

As regards the latter-day women physicians, the first medical school for women was the Woman's Medical College of Pennsylvania, founded in 1859. This college conferred the honorary degree of M.D. on Harriet Kezia Hunt (1805-1875) in the year 1853. Harriet Hunt was born in Boston, studied medicine in the family of a Dr. Mott of that city and from books, and opened a consulting room for the practice of medicine in 1835, before receiving a degree. She may be considered as the first practitioner of her sex in modern times. Elizabeth Blackwell of New York City received an M.D. from Geneva Medical College, New York, in 1849; she and her younger sister, Emily, who had received her M.D. at the Cleveland Medical College in 1854, practiced for many years in New York.

The New England Female Medical College was organized in Boston in 1848 under homeopathic auspices; in 1874 it was merged with the Boston University Medical School. In 1859 this college extended an invitation to Marie Elisabeth Zakrewska (1829-1902) (pronounced Zak-shef-ska), a Prussian, educated partly in Berlin and partly at the Cleveland Medical College and as a pupil of Elizabeth Blackwell, to fill the chair of obstetrics at the college in Boston. Dr. Zak, as she was familiarly known, started a ten-bed hospital in Pleasant Street in 1862, the beginning of the present New England Hospital for Women and Children, now situated on ample grounds on Dimock Street, Roxbury. This must be considered as the first clinic founded by women in this state. It was at the New England Hospital for Women and Children that the first training school for nurses was established by Susan Dimock in 1872. Here Lucy Sewall (1837-1900) a graduate of the New England Female Medical College in 1862, did much of her pioneer work in the field of women in medicine.

WALTER L. BURRAGE.

## "PHILANTHROPIC DOUBTS."

Mr. Editor:—

In a recent number of the *Atlantic Monthly* there is an article entitled "Philanthropic Doubts" which should be read with care by every physician, social worker, and indeed everyone else interested in the general subject of social, mental and physical uplift. It is a striking indictment against volunteer organizations of all kinds. The material on which it is based has been collected from all over this country

but it is manifest that what the author says with truth concerning some parts may not be the truth concerning other localities.

In many ways the article is an unfortunate one. It is, for instance, a great pity that it appears in the fall of the year when the majority of organizations and societies are endeavoring to secure funds for their year's work. It is inconceivable that all societies should come under the classification in which the author puts them, namely, that they are comparatively useless and should be eliminated. It is likewise unfortunate that the article was not published in a journal of a more professional nature which would come more directly before the workers themselves.

Although one could select almost at random a great many instances of where a grave injustice has been done to many institutions and it is unnecessary to select more than one as an example. Take, for instance, the following paragraph.

"The taking over by towns and states of the responsibility for the care and prevention of tuberculosis, a work ably initiated all over the country by the anti-tuberculosis associations, undoubtedly meant in some places an inferior quality in the treatment given; but the comprehensiveness of the work that is being done and the promise that the activity throughout the country makes for an eventual control of the dread disease, is something no private organizations, however efficient and ably run, could have hoped to attain. Yet anti-tuberculosis associations continue to exist, refusing to recognize that their pioneer work is done and that their outposts should be moved further on."

This statement as far as Massachusetts is concerned, in the opinion of those who are far more able to judge than the author, is such a flagrant injustice and such a very patent misstatement of fact as to merit a well deserved criticism. There is hardly an organization or an institution dealing with tuberculosis in Massachusetts, which the State now controls, whose inception was not owing to the high faith and unremitting efforts of lay men and women and volunteer organizations. The Rutland State Sanatorium, the first state institution in this country, was built solely and purely to the fact that Dr. Vincent Y. Bowditch, of this city, had demonstrated at the Sharon Sanatorium that tuberculosis could be cured in this climate. The laws requiring local tuberculosis hospitals and local dispensaries now framed by the state and by various municipalities were framed and brought about by men of the type of Arthur T. Cabot who organized the Associated Communities for the Control and Prevention of Tuberculosis under the Massachusetts Medical Society. Dispensaries, hospitals and clinics all over this state now under the control of local Boards of Health have been brought into being by the efforts of local volunteer organizations. The Boston Tuberculosis Association, one of the oldest in this country, by means of its traveling tuberculosis exhibits has stimulated every community in Massachusetts toward better health work. Open-air schools and fresh air rooms which are now regarded as an integral part of the school system had their inception in the school established at Franklin Park some years ago by the Boston Tuberculosis Association which school was later on taken over by the city. The system of traveling consultant service in tuberculosis, one of the latest and most important steps in progress, was made possible by the fact that the Massachusetts Tuberculosis League financed this project for the first year or so. Social work in our state sanatoria, the looking up and aftercare of discharged sanatorium patients, without which no sanatorium can be complete, was organized in Massachusetts by the Trustees of Hospitals for Consumptives in 1912 under the direction of Miss Berenice W. Billings. This work was sug-

gested by the Boston Tuberculosis Association and Miss Billings' expenses and salary paid for the first year by this Association thereby demonstrating to the state that the work was worth while. And so, as far as Massachusetts is concerned, the list could be lengthened.

It is undoubtedly true that at various periods in their career organizations and institutions reach a stationary condition, get into the doldrums as it were, and do not function as they should. This fortunately, is in the great majority of instances only a temporary condition and yet the writer of this article states "that anti-tuberculosis associations continue to exist, refusing to recognize that their pioneer work is done and that their outposts should be moved further on." In the very city in which she lives the foundation of the present excellent state of affairs on which the tuberculosis work of that city rests was built almost entirely by the Cambridge Tuberculosis Association.

Destructive criticism is all very well in its place but it should be supported by criticism that is constructive as well. Let credit be given to whom credit is due. Let each institution and each society and organization have an annual stock-taking, let it look into itself honestly, fairly and squarely and see if it is functioning properly or see if it has outlived its usefulness. If the latter be the case, by all means let it disband and let its energies be spent elsewhere, but on the other hand, let us not falter in our steps or in any way give up our efforts simply because there are those who disapprove of our efforts and depreciate our results.

JOHN R. HAWES, 2ND, M.D.,

President Boston Tuberculosis Ass'n.

#### "OBJECTIONABLE NEWS ITEMS."

Mr. Editor:—

Along the same lines as your recent editorial on "Objectionable News Items," the *Boston Sunday Herald* of October 16, 1921, published a sensational article on the cure of blindness by a local practitioner, especially mentioning U. S. Senator Gore as a patient. In reply to a letter from me, the Propaganda Department of the *Journal of the American Medical Association* sent me the enclosed letter, which explains much. I think it is worthy of a place in our *Boston Journal* that "he who runs may read." You are at liberty to publish it as you choose.

Sincerely,

EDWIN A. MESERVE.

RECORD OF SAMUEL JACOB HARRIS.

Dear Dr. Meserve:—

According to our records, Samuel Jacob Harris of Boston was born in 1875 but was never graduated in medicine. He was licensed in Massachusetts in 1896, presumably, on "years of practice," at any rate, as a non-graduate.

Although sensational newspaper items describe Harris as a graduate of Harvard University, the complete list of Harvard graduates, that we have, fails to show that Harris was ever graduated by Harvard in anything—medicine, law, liberal arts, etc.

We find from an old catalogue of Harvard University Medical School for 1895 and 1896, that the name of Samuel Jacob Harris, Jr., appears as a student in the second year. This name does not appear in any previous or subsequent catalogue, so far as our investigation shows.

We have some old newspaper clippings of September, 1907, recording the meeting in Boston of the "American Electro-Therapeutic Asso-

ciation." Among the several noted (!) men who were to speak before the Association, was Samuel Jacob Harris of Boston, who was going to "illustrate electrical methods of treating eye, ear, nose and throat diseases."

Very truly yours,

THE JOURNAL A. M. A.,  
Propaganda Department.

#### The Massachusetts Medical Society

JOINT MEETING OF THE BARNSTABLE, BRISTOL NORTH, BRISTOL SOUTH AND PLYMOUTH DISTRICT SOCIETIES.

In accordance with the expressed desire of the Council, a joint meeting of the above District Medical Societies will be held at the Lakeville State Sanatorium on Thursday, November 10, 1921. Luncheon will be served at 1 p.m., program at 2 p.m.

#### SPEAKERS

Dr. John W. Bartol, President of the Massachusetts Medical Society.

Hon. B. Loring Young, Speaker of the Massachusetts House of Representatives.

Dr. Walter P. Bowers, Secretary of the State Board of Registration in Medicine.

Dr. Sumner H. Remick, Director, Division of Tuberculosis, Massachusetts Department of Public Health.

Dr. Edward Reynolds, Chairman of the Committee on Cancer, Massachusetts Medical Society.

A cordial invitation is extended to every member of the combined district societies.

SUMNER COOLIDGE, M.D., President,  
Bristol North District Medical Society.  
ARTHUR R. CHANDLER, M.D., Secretary,  
Bristol North District Medical Society.

SAVE AND PROLONG THE USEFULNESS OF THE EYES.—A well-known specialist addressing a national conference, stated: "For every blind person we generally can count from one to three who are what is termed near-blind, and a still greater number with markedly deficient vision. So we may continue to estimate until we come to what seems an almost universal lack of eye perfection.

"We shall better understand by the number of young men between the ages of twenty-one and thirty-one years who were refused entrance to the army because of deficient vision; so deficient that the glasses failed to bring it up even sufficiently for one draftee to be acceptable for limited service.

"Just as it is necessary for school children to be examined, so every individual between the ages of 21 and 39 years should have the ocular state ascertained, as was done in the case of the army draftees.

"Early tendency toward the development of cataract may also occur during this period. Refractive errors (defective vision) when corrected lessen this tendency. Correction of defective eyesight, therefore, is a stitch in time, for it will save and prolong the usefulness of the eye."



## NOTICE.

BOSTON CITY HOSPITAL.—Staff clinical meeting, Cheever Surgical Amphitheatre, Friday, November 11, 1921, at 8 P.M.

Topics: End Results.

Psoriasis and Acne. Townsend W. Thorndike, M.D., Physician for Diseases of the Skin.

Eczema. William P. Boardman, M.D., and Walter T. Garfield, M.D., Assistants to the Physician for Diseases of the Skin.

Psoriasis. M. C. von Groll, M.D., Assistant to the Physician for Diseases of the Skin.

Treatment of Some Microbic Diseases of the Skin with Bacterial Vaccines. George P. Sanborn, M.D., Visiting Physician for Immunology.

Treatment of Some Diseases of the Skin. Frank B. Granger, M.D., Physician for Physical Therapeutics.

Open Discussion. Cases shown.

Physicians and medical students invited.

DR. H. ARCHIBALD NISSEN,

DR. HALSEY B. LODGE,

Committee.

## APPLICANTS FOR MEDICAL REGISTRATION.

The results of the September-October examinations of physicians applying for registration in Massachusetts are as follows:

NAME OF SCHOOL GRANTING THE DEGREE	NUMBER OF APPLICANTS	REGISTERED	REJECTED
Mass. College of Osteopathy	1	1	
Kentucky School of Medicine	1	1	
Physicians and Surgeons, Boston	3	2	1
Tufts Coll. Medical School	7	7	
Middlesex Coll. Medicine and Surgery	7	4	3
Laval, Quebec	1	1	
University of Lisbon	2	2	
University of Vermont	2	2	
University St. Vladimir	1	1	
Univ. Illinois Coll. Medicine	1	1	
Johns Hopkins	2	2	
Harvard Medical School	4	4	
Meharry Medical	1		1
Univ. California	1	1	
Laval, Montreal	1		1
Univ. Penn.	1	1	
St. Louis Coll. Phys. and Surg.	1		1
Sydney Univ (Australia)	1	1	
Boston University	1	1	
	39	30	9

DR. WINFRED OVERHOLSER, for the past year Assistant Superintendent of the Gardner State Colony, has been appointed Assistant Superintendent of the Medfield State Hospital, and has taken up his new duties.

## MEMBERS OF THE LEGISLATIVE COMMITTEE THE STATE NURSES' ASSOCIATION.

Miss Sally Johnson, Massachusetts General Hospital.

Miss Anna L. Gibson, Huntington Hospital.

Miss Katharine Shepard, Household Nursing, 222 Newbury Street.

Mrs. William E. McNamara, 376 Washington Street, Dorchester.

Miss Carrie Hall, Peter Bent Brigham Hospital, ex officio.

Miss Anne H. Strong, 561 Massachusetts Avenue, Chairman.

## APPOINTMENTS FOR SERVICE IN HOSPITALS.

THE following named physicians have been granted registration for service in hospitals: Arthur Forest Anderson, Resident Physician, Children's Hospital; James Alexander Arne, Intern, Middlesex Hospital; Raymond Edwin Gilbert, Intern, Middlesex Hospital; Joseph Augustus Crozier, Surgical Intern, Peter Bent Brigham Hospital; Frederick Henry Gebhardt, Senior Assistant Surgeon, Boston State Hospital; Marianna Taylor, Intern, Boston Psychopathic Hospital; Joseph Frederick Toot, Intern, Massachusetts Charitable Eye and Ear Infirmary.

## NOTICE.

NEW ENGLAND BRANCH OF THE AMERICAN UROLOGICAL ASSOCIATION.—The annual meeting of the Society will be held on Thursday, November 17, 1921, at 8.15 P.M., at the Harvard Club of Boston.

## Election of Officers.

## Candidates for Membership:

Dr. Harold A. Johnson, Lynn. Endorsed by Dr. John Cunningham.

Dr. Harold R. Leland, Lowell. Endorsed by Dr. Ralph Wiggin.

Dr. Bryant D. Wetherell, Boston. Endorsed by Dr. Richard F. O'Neil.

## Program.

Presentations of Specimens, Instruments, and Report of Cases.

"Some of the Disputed Points Regarding Prostatectomy." Dr. Arthur L. Chute, Boston.

JOHN W. KEEFE, M.D., President.

GEORGE GILBERT SMITH, M.D., Secretary.

352 Marlborough Street, Boston, Mass.

By the will of Dr. Elizabeth A. Riley, two scholarships are created of \$3000 each, the income to be applied to the education of needy and worthy women students in Tufts College Medical School.

One scholarship is to be known as the Charles P. Thayer Scholarship in recognition of Dr. Thayer's services to the school, and the other will be known as the Dr. Elizabeth A. Riley Scholarship.